DOCUMENT RESUME

ED 479 237 IR 022 027

TITLE	Teaching, Learning, & Technology: The Challenge Continues. Proceedings of the Annual Mid-South Instructional Technology Conference (8th, Murfreesboro, Tennessee, March 30-April 1, 2003).
INSTITUTION	Middle Tennessee State Univ., Murfreesboro.
PUB DATE	2003-04-00
NOTE	178p.; For selected papers, see IR 022 028-044. For the 2002 proceedings, see ED 464 634. Some figures contain illegible type.
AVAILABLE FROM	For full text: http://www.mtsu.edu/~itconf/proceed03/index.html/.
PUB TYPE	Collected Works - Proceedings (021)
EDRS PRICE	EDRS Price MF01/PC08 Plus Postage.
DESCRIPTORS	Computer Mediated Communication; Distance Education; *Educational Technology; Higher Education; Information Technology; Instructional Design; Instructional Development; Online Courses; Technology Integration; *Technology Uses in Education; Web Based Instruction; World Wide Web

ABSTRACT

This proceedings of the eight annual Mid-South Instructional Technology Conference: Teaching, Learning, & Technology contains the following selected presentations: "Design and Implementation of a Multimedia CD-ROM-Based Directed Study Preservice Teacher Education Course" (Timothy Morse); "Effective IT Integration in the Composition Classroom: Instructor and Student Perspectives" (Maria Clayton); "Enduring Principles of Teaching [Technical Disciplines] in the 21st Century" (Rob Byrd); "Enhancing Accessibility with Web Material and Courses" (Raj Desai, Ted Loso); "Enhancing a Face-to-Face Course with Online Lectures: Instructional and Pedagogical Issues" (Thomas Keefe); "Evaluating ELearning: A Front-End, Process and Post Hoc Approach" (Temba C. Bassoppo-Mayo); "Student Recommendations for Discussions Boards: Conclusions of Student Problems" (David Warner); "The Berry Informational Technology (B.I.T.S.) Student Work Program: An Effective Environment for Collaborative Learning, Leadership, Technological Training, and Certification" (Amy Cornelius and Paul Macaluso); "The Challenge of Teaching Educational Technology Courses Online" (Marge Maxwell); "The Use of Online Courseware in Foreign Language Instruction and Its Implication for Classroom Pedagogy" (Jun Da); "Using the Internet as an Instructional Tool: ESL Distance Learning" (Ruth Reynard); "Virtual University--A Higher Education Administration Simulation and Learning Tool" (James Penrod, Barbara Perry); "Designing and Developing Interactive Instructional Concepts" (Darla Runyon); "How To Develop Streaming Multimedia Lecture Presentations" (Thomas Keefe); "Making Your Blackboard Courses Talk!" (Tim M. Burcham); "My Beloved Blackboard: Teacher Empowerment for Students' Success" (Elizabeth Caplan-Carbin); "The Best of Two Worlds: Combining ITV and Web Quests to Strengthen Distance Learning" (Charmaine Mosby); "Developing a Cooperative Online Degree Programs--The Practical Mechanics" (Darla Runyon and Roger Von Holzen); "Institutional, Public and Individual Learning Dynamics of the Andy Holt Virtual Library" (Robert Peckham); "AML: A Beginner's Guide" (Robert Hallis); and "The Wrinkle in Your Research and Teaching: Copyright, DMCA, Guidelines, and Public Domain" (Susan Alexander and Diane Baird). (MES)

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Eighth Annual
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Teaching, Learning, & Technology
The Challenge Continues
March 30-April 1, 2003

2003 Conference Proceedings

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Design and Implementation of a Multimedia CD-ROM-Based Directed Study Preservice Teacher Education Course

By: Timothy Morse
Track 1 - Effective Technology Based Learning Environments
Interest: Faculty :: Lecture/Presentation :: Level: All

Abstract

Dr. Morse will discuss his development and implementation of a computer-based directed study preservice teacher education course. Specifically, he will explain the procedures he followed to create the 10 multimedia CD-ROMs that comprise the course, and how his preservice teachers use the CD-ROMs. Topics to be covered include (a) rationale for course creation, (b) instructional design model used, (c) how source material was obtained, (d) equipment used to obtain source material and create CD-ROMs, (e) course implementation and student feedback, and (f) lessons learned/future directions.

Proceeding

Teacher educators continuously seek innovative ways to present quality instruction for a number of reasons, including to (a) increase their preservice students' learning, (b) fulfill their institution's mission to generate new knowledge, and (c) address their student body's demographics. Recently innovative uses of computer technology to deliver college courses have proliferated as this technology has penetrated an increasing number of classrooms and homes. In particular, online course offerings in higher education have risen steadily as the Internet and World Wide Web have become more popular. Convenience and

asynchronous access are often cited as reasons why some students prefer to take online courses as opposed to the more traditional form for college courses.

However, online courses are only one type of technology-mediated instruction. As Vanttorn (1998) noted, no one technology works in all settings for all purposes. Hence, college instructors must learn to use technology-mediated instruction that is best suited for their specific purposes. Given these circumstances, another type of technology-mediated instruction that warrants investigation for course delivery is multimedia CD-ROM.

As an alternative to online courses, multimedia CD-ROM-based courses possess the potential for delivering the convenience and asynchronous access students attribute to online courses. In fact, for more than a decade special education teacher educators have used computer-based multimedia instructional materials to demonstrate selected practices in special education (Blackhurst & Morse, 1996; Langone, Malone, & Clinton, 1999; Thorkildsen & Lowry, 1997). While teacher educators are not yet expected to produce these materials, a growing number of institutions are beginning to encourage such efforts (Ludlow, 2001).

During the past two years the lead author has been developing a directed study, multimedia CD-ROM-based course: *Psychology and Education of the Exceptional Individual*. When such initial development efforts are undertaken, they need to be reported so that others can learn from the experience. Consequently, in this paper the instructional systems design issues the author has confronted in developing the aforementioned course are discussed. An instructional systems design involves defining what is to be learned, planning an intervention that will foster learning, conducting assessments to determine if learning objectives were met, and refining the intervention to address unmet objectives (Seels & Glasgow, 1998). Hence, the focus of this paper is the instructional systems design that the author currently believes needs to be followed when this type of technology-mediated instruction is used. This design is highlighted in the following two sections of this paper. First, a course overview is presented. Second, six issues the author has determined must be addressed when this type of technology-mediated instruction is used are identified and described.

Course Overview

Course Objectives and Content

The multimedia, CD-ROM-based course serves as the University's introductory special education course and is the only required special education course for all preservice regular education teachers. Thus, the purpose of this course is to teach basic information about students with disabilities and the operation of special education programs in the public schools. The course is contained on a collection of 10 CD-ROMs. The CD-ROMs include video, audio, graphic, and text files that present: (a) the instructor's lectures; (b) special education activities being performed in local public schools; (c) key special education documents, such as a student's individualized education program, or IEP; and (d) interviews with school

personnel. Hence, the course was a collaborative effort between the University and four public school districts.

The author obtained all of the video and audio source material by videotaping and creating audio recordings of his lectures, and videotaping special education activities being performed in local public schools as well as interviews with school personnel. A Sony DCR-TRV 17 Mini-Digital Video Camera and a Sony ICD-BP 100 IC Recorder were used for these purposes. The source material was converted to video and audio files on a Sony PCV-RX463DS VAIO Digital Studio computer using Sony's DV Gate Motion software to capture video and MGI Videowave III SE to edit it. Audio files were both captured and created using Sony's Digital Voice Editor software. Graphic files of key special education documents were created using an HP ScanJet 5300C scanner and its accompanying software. Text files in which additional lecture materials, a study guide, and information directing the students how to use the CD-ROMs were created in Microsoft Word 2000. The video, audio, graphic, and text files were appropriately assembled as interactive multimedia instructional programs using the multimedia authoring program Lectora. These instructional programs were then "published" as the 10 CD-ROMs that comprise the course.

Rationale for Course Creation

The course is offered at The University of Southern Mississippi, which is a dual campus institution. One campus is located in Hattiesburg, while the second campus (where this course is offered) is headquartered approximately 75 miles south on the Mississippi Gulf Coast in Long Beach. Additionally, courses are offered at three satellite locations along the Coast. The preservice teacher educators for whom this course was created complete the majority of their classes at two locations along the Coast: either Long Beach or Gautier, which is approximately 40 miles east of Long Beach. Since the CD-ROMs present confidential information about special education students, they are housed at secure locations in a library at Long Beach and a computer lab at Gautier in accordance with an agreement between the University and the public schools.

Most of the students who attend University classes on the Coast are non-traditional college students. Consequently, the University's Gulf Coast faculty seek to develop course offerings that meet these students' particular needs, such as the need to have flexibility regarding when and how they complete a course. Given these circumstances, during the past three years an online version of the introductory special education course was made available to these students. Still, some of them requested the creation of a section of this course that offered them even more flexibility. The reasons for their request included not being available to attend the mandatory online sessions (e.g., weekly chat sessions), previous negative experiences with online courses, scheduling conflicts between the online version of this course and other classes the students had to take, and not having access to a personal computer equipped with Internet access.

Consequently, the author secured a grant from the University to create the multimedia CD-ROM-based course. The University annually awards "Summer

Grants for the Improvement of Instruction." These grants release a professor from all teaching responsibilities during the summer semester so the professor can create an innovative way to present instruction. Previous to this the author used grant monies he secured from the University's Preparing Tomorrow's Teachers to Use Technology (PT3) grant to obtain the equipment and generate the content he needed to place on the CD-ROMs.

Course Implementation

Students complete the course by viewing the CD-ROMs. The students can view them any time the facilities where the materials are housed are open. Each student must present proper identification (i.e., their student identification card) to use the materials. Each collection of 10 CD-ROMs is contained in one 3-ring binder equipped with plastic storage pages. A total of six 3-ring binders are available for the students' use.

The entire class meets with the instructor the first Friday of the semester, and then meets with him three additional Fridays. During the first class meeting the syllabus is discussed and use of the CD-ROMs is demonstrated. Three more class meetings are held so the students can complete proctored examinations that pertain to the CD-ROMs. Additionally, each student must complete a take-home exam that is based on the course's required text and write a philosophy of special education paper. These assignments must be submitted to the instructor by their assigned due dates.

The instructor and students remain in touch via telephone, postal mail, student-scheduled meetings, and e-mail. The week following the administration of an exam the instructor sends a letter to each student in which he informs the student of her grade on the exam, encourages the student to schedule a meeting to discuss the exam, and reminds the student about upcoming course requirements (e.g., in-class exams as well as the due dates for the take-home exam and philosophy paper).

Instructional Design Considerations Pertaining to a Multimedia CD-ROM-Based Course

As the author created the multimedia CD-ROMs and considered the course's implementation, evaluation, and revision, he identified six critical issues that must be addressed when this type of technology-mediated instruction is used. These six issues are discussed below.

Establish a Clear Rationale for Developing the Course

The author learned, as have others (Ludlow, Foshay, & Duff, 1998), that creating multimedia instructional materials, especially an entire course that consists of a collection of multimedia CD-ROMs, can be a very time and labor-intensive process. Therefore, before one commits to such an endeavor one should establish a clear rationale/need for developing the course.

Define the End-User

The end-user will drive most of the course's design. Three issues pertaining to the end-user that must be addressed are (a) what does she need to learn; (b) what entry-level technology skills does she possess; and (c) how do her demographics (e.g., time available for coursework) impact upon the implementation of the course?

Consider Course Creation Issues

Six items must be addressed before course creation begins. First, one must determine the hardware and software needed to create a multimedia CD-ROM-based course. Second, funding may have to be obtained to purchase these items. Third, protocols must be established to ethically obtain the source material (e.g., videotapes) that will be placed in the course. Fourth, this material will have to be appropriately placed in video, audio, graphic, and text files. Fifth, individual screen and an overall course design will have to be generated. Sixth, a development team should be assembled to create the course. This approach will enable team members to draw upon their expertise and maximize the course's instructional effectiveness (Ludlow, Foshay, & Duff, 1998). This course was created solely by the author and, even though he successfully completed the project independently, his experiences highlight the need for a development team.

Establish Course Implementation Procedures

If a multimedia CD-ROM-based course is being designed to address issues such as convenience and asynchronous access, much thought must be dedicated to course implementation issues. First, students must be made aware of this unique course offering before they register for it. Second, procedures must be established for viewing the CD-ROMs (e.g., where and when). Third, class meetings may have to be scheduled for distributing the syllabus and administering proctored exams. Fourth, procedures for collecting "outside" assignments may have to be established. Fifth, the instructor and students must have ways to contact each other. Sixth, a backup plan for conducting the course must be established in case the CD-ROMs fail to work as planned.

Determine how the Course Will be Evaluated

The course should be evaluated to determine whether the students mastered the learning objectives and liked the course's format, and whether the instructor was satisfied with the design and implementation process. Multiple types of assessment data should be obtained (see Liaupsin (2002) for guidance).

Plan for Course Revision

Course evaluation data should be used to revise the course to enhance student

learning. Also, course content must be updated as events warrant. Thus, one must determine the time and manpower that will be needed to make the course revisions, and simultaneously determine if these resources will be available. One must also recognize that every issue discussed previously must be revisited (e.g., establish a sufficient rationale; identify the end-user).

Conclusion

The development and use of technology-mediated instructional materials by preservice teacher educators will continue to evolve as existing and emerging technologies allow these instructors to create materials that address their specific needs. Teacher educators who create these materials must make an effort to disseminate their work so that others can learn from their experiences. The instructional design experiences of the author that were reported here are an example of this type of information dissemination. Future reports of this work (and other similar work) should include a detailed discussion of actual course implementation issues, as well as instructional effectiveness and efficacy data.

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Effective IT Integration in the Composition Classroom: Instructor and Student Perspectives

By: Maria Clayton
Track 1 - Effective Technology Based Learning Environments
Interest: Faculty :: Lecture/Presentation :: Level: Intermediate

Abstract

A Middle Tennessee State University instructor of a web-assisted, first-semester composition course examines her integration of instructional technology (IT), particularly the use of interactivity tools for in-class and cross-class collaboration. Beyond the obvious benefits of making course materials available 24-7 and linking students via email, IT allows teachers to develop assignments that capitalize on electronic small group activities promoting process-based composition instruction. Emerging best practices from her and her students' perspectives revealed through surveys over three semesters are also presented.

Proceeding

In the composition classroom, effective use of instructional technology (IT) includes any application of technology that contributes to practicing and improving writing skills, to bringing students together in communities of student-centered learners through greater interactivity, and to promoting technological literacy. How can writing assignments be structured to integrate IT to meet these purposes? What are the benefits and drawbacks of these assignments as perceived by students and faculty? How can the use of IT be rethought and revised to capitalize on the former and minimize the latter? These critical issues should be at the forefront of composition instructors' planning and developing pedagogically sound assignments using IT.

Beyond the obvious benefits of making course materials available 24/7, beyond what can be accomplished by linking students via email, IT allows composition teachers to develop assignments that capitalize on electronic peer group activities to promote key aspects of the composition process. Instructors can integrate discussion boards and file exchange features, among other tools, to be used for a variety of composition instruction purposes. In so doing so, students benefit by learning about or solidifying their understanding of a reading audience and by becoming adept at determining what revisions might be necessary for their writing to meet that audience's needs—thus, audience and the revision-centered writing process are both reinforced. For example, specially designated areas available through web-management software, such as CourseInfo and WebCT, make possible the electronic exchange of drafts or parts of drafts among peers, facilitate the peer response process, and even extend the dialogue over writing beyond the time allowed in the physical classroom, all without requiring additional face-to-face meetings. Going one step further and expanding these peer communities to include members from other, similar composition sections contributes to giving even clearer presence—physical and/or virtual—to the concept of audience for whom rethinking and revising of the writing might be necessary.

For several semesters, I have brought together two sections of computer-assisted, web-assisted English 1010, Expository Writing, at Middle Tennessee State University, making students' peer review teams cross each section's physical boundaries to include respondents from two sections of the same course. Students begin the semester's work, the first two essays, relying only on assigned in-class peers for feedback on their essays' second draft. Introducing them to the IT tools and the procedures to be used for peer work gradually, allows them to become competent before virtual communication among peers is the only type available. These peers constitute a first-level audience with whom they become familiar over the three-time-a-week, face-to-face contact shared during the early weeks of the semester. This frequent contact establishes a comfort level and willingness to accept their input—like that of siblings, friends, or roommates. However, by the third essay, my students' audience expands to include peers from the other English 1010 section, an audience they have contact with only over email and other IT communication tools (i.e. personal homepages). If convenient, as in the Spring 2002, Fall 2002, and Spring 2003 semesters, when the two sections met back-to-back (7:00 a.m. and 8:00 a.m.), a physical meeting can be arranged. These two representations of their readership—physical and virtual—contribute to each writer's developing understanding of what details are necessary/interesting, what level of formality/informality is called for, what tone is appropriate. While making these choices, the writer's role shapes more clearly, and the writer's voice begins to emerge, leading the student closer and closer to developing his/her identity as a writer. This learning is vital for developing, improving, or honing writing skills.

According to Linda Meyers-Breslin in "Technology, Distance, and Collaboration: Where are These Pedagogies Taking Composition," "As we move students from private to public audiences, it makes sense to place students into the Net. There we can ask them to write in a space where anyone and everyone can read their

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words, and students can exchange ideas in a more real world setting, with people situated in the real-world" (161-62). This concept is emphasized by the course's Essay 3 assignment, where, in addition to using a mix of in-class and cross-class peer members, I expand on the concept of audience further through other specifics of the assignment:

Your web-assisted, portfolio composition class will participate in a collaborative peer group project for students from your instructor's two sections of 1010 CAI Portfolio Composition. This assignment will expand your writing communities and further develop your ability to analyze and to adapt our writing to specific, targeted audiences. There is a strong possibility that the resulting collection of essays will be made available to prospective MTSU students and their parents, incoming freshmen, and CUSTOMS Student Orientation Assistants. Possible inclusion of selected essays on the CUSTOMS' website implies a worldwide audience interested in reading about our University and the surrounding community. [CUSTOMS is the name of our University's freshman orientation program.]

TOPIC: Now that you have had several weeks to adjust to your new role as a college student, it is time to explore what your college and the surrounding community have to offer its students. You will share that newfound knowledge with others in an informative essay of 550 to 650 words. You may choose one of two options:

- A profile of a campus program, publication, service, club, or place
- A profile of a place or activity in your campus' surrounding community

AUDIENCE/PURPOSE: Since your essay could be published in a collection posted on the Internet, anyone around the globe could read your essay, including future students for our institution. However, you will want to more specifically target readers at our University. The general purpose of your profile is to inform. Please assume that your target readers are first-year college students at Middle Tennessee State University who are unfamiliar with the subject of your profile.

However, what is even more critical, as Myers-Breslin points out, is not just to bring students and their writing to these spaces, but to structure assignments that involve them in a conversation about the writing (162). Her views parallel my thinking; hence, the inclusion of very detailed peer response tasks (See Appendix A), as well as, another beneficial aspect of these cross-class groups, the built-in element of collaboration. In-class members work as a team to respond to the writing from their cross-class peers. During this portion of the process, students dialogue about strengths and weaknesses they find in the writing in terms of audience, thesis, organization, detail, and a variety of other elements specified in the assignment. The collaboration strengthens peer response skills, builds confidence, and allows respondents to think about these very issues in their own writing—a very profitable exercise! One student comments, "I found the in-class and cross-class tools have helped me to develop a sense of belonging to a community. It allowed me to see other students' writing and would often show me ways that I could improve my writing." Yet another claims, "The most beneficial

part of the forums was the ability to see other peoples' writing. Also, the questions on the peer response sheets helped me to think critically about the assignment."

But what else do students have to say about the use of the course's IT features? From these English 1010 students, I have received primarily positive and encouraging feedback through an informal survey on the effects of interactivity (See Appendix B) and through evidence of increased appreciation for the resulting collaborative exchanges. What are the benefits and drawbacks perceived by each of my two sections over the last three semesters? In terms of general website features, having access to course material earned very high ratings, with 97% of respondents seeing this feature as Critical/Useful, the two most positive ratings. Similarly, samples provided for modeling assignments and announcements that helped everyone stay on track received 100% and 86% as Critical/Useful respectively. External Links that provide assistance in various areas of the composition process, grammar, and mechanics attracted 69% in the same two highest ratings. Clearly, the students value the access-to-course-content benefits afforded them by the use of IT in the course.

In terms of the key issue of interactivity, the majority of my students has established small communities of writers and defines their primary goal as helping members improve their writing fulfilling all requirements of the assigned rhetorical situation and including expanding their concept of audience. Their rating for access to one another via email and discussion boards earned high marks—90% and 93% respectively in the two, most positive ratings, Critical and Useful; the remaining 10% and 7% fell in the Nice to Have rating, with no one describing them as Not Useful. Learning about each other via the personal web pages was rated as primarily Nice to Have, 45%, while 31% of respondents saw it as Not Useful. These last two ratings are understandable because most of these students do have face-to-face access to one another. In general, the increased access to peers and instructor alike (expanded classroom walls) was evaluated in positive terms as well through the comments provided: "Gives me access to a lot more than just the teacher . . . provides a sense of camaraderie between [sic] the students"; "More opportunities to get assignments done well"; "It helps me keep up w/homework & allows me to access my peers if I have a problem." Only a few exceptions, bemoaned the added effort expended: "there is too much to do just for writing a paper." In terms of the actual help received on their writing, again, the majority shared positive reactions: "Different people with different suggestions make me look at my paper as they are"; "these peers often give a different angle than the in-class peer"; "The community of writers come together and work as a team . . . give feedback in whatever way they can." Others demonstrated a concerned attitude about everyone's commitment to the process: "sometimes your peers didn't care and just jotted anything down"; "Sometimes students do not really put any effort into their comments about your paper." Indicating clear awareness of their needs in the composition process, these students acknowledged the potential absence of substantive content required for feedback to actually be useful; this drawback can be addressed with the whole class, as well as with individual students, as the course progresses through additional modeling and more specific requirements/guidelines.

A side benefit from integrating all these uses of IT tools is that my students gain and practice their computer technology skills. In this course, they walk away having participated in virtual communities, having given and received feedback on their writing, having created simple homepages, having practiced using attachments. When they complete the course, they have gained/increased their confidence in using IT, while capitalizing on the opportunities to work on their writing. In response to a prompt on the survey about anxiety in a web-assisted course (See Appendix B), one student comments, "I am computer illiterate and was worried about using a computer for class. The class helped me realize I can't make the computer blow up if I make a mistake." Another shares, "I came into the course with very little computer skills . . . . I have learned a lot." This is an important side benefit in improving students' ability to communicate. Some students even made a discovery not related to writing, seeing the advantages of posting writing and receiving virtual feedback as a paper-saving practice.

From a faculty perspective, I am encouraged by what I hear and read in my students' dialogue about writing. I am pleased to have wakened them to rethinking writing from a process carried out totally in isolation to one that not only considers audience, but also elicits feedback from it. I also like that they discover they are not the only ones experiencing problems with the composition process. All this re-thinking is a very good thing. Turning to the mechanics of the web-assisted course, I find that bringing all students to the necessary comfort level with IT is often a frustrating and time consuming process because, unfortunately, not all students come to me armed with the necessary tech skills to hit the ground running, even though the course is listed as computer-assisted in the semester's course schedule booklet.. However, establishing the comfort level is a necessary evil because IT's place as a tool rather than the subject matter for instruction must be clearly established. The more we expose our students to it, the more truly transparent it will become. While training time varies semester to semester, usually two sessions are sufficient to demonstrate and allow "practice" with all the basics. I also make available clear instructions, as well as access to me and to their peers as needed. The benefits provided for our purposes of establishing communities begin to materialize rather quickly as students from support groups for tech-related issues, but more importantly, for editing/revision suggestions and dialoguing about writing.

What does all this tell me, and what, if any, revisions will I make in the assignments I've developed using IT for my composition students? As I've mentioned, every semester I get feedback from my students through the survey (as well as through less structured dialogue) about what IT tools are most/least useful and about how they think the course needs to be improved to accomplish our goals of improved writing. I am always receptive to their suggestions and have integrated several of their suggestions. For example, to improve the quality of feedback received by student writers, I built in additional peer response mini-modeling sessions, focusing on the specific requirements for each assignment. I have also made available digital versions of the Peer Feedback Sheets, the Coversheets, and other materials to make the process more user-friendly. Additionally, I attend conferences and workshops regularly and engage my colleagues interested in similar pursuits in conversations about best practices; the exchange of ideas is profitable in both directions.

Karen Frankola, in "The e-Learning Taboo: High Dropout Rates in Online courses," suggests that following best practices in interactivity "not only creates a sense of community for participants; it also stimulates learning through discussing ideas and practicing skills . . . . [students] benefit from high interactivity with faculty and each other through exchanges like bulletin board discussions and e-mails" (16). IT integration to promote this dialogue should be implemented gradually, in increments. Instructors should not only have a clear sense of each component's purpose (not bells and whistles just for their own sake), but also have complete knowledge of how each works, to include anticipating student problems and how to address them. Then, in developing the assignments, detailed and clear directions and training time must be provided, to include the goals/rationale behind IT's use. With these simple suggestions in mind, implementation should result in a positive experience for students and faculty alike. Anytime we increase and deepen the dialogue about composition among our students, we move them towards clearer awareness of what constitutes good writing and towards improving their own. This should be the goal of a composition classroom integrating IT based on sound educational principles.

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Appendix A
Tasks for Peer Response Groups

Review this information prior to each peer response group.

I—The General Rules for In-class Peer Groups:

Writers should post to their Peer Group forum (Discussion Area of the website) the coversheet and draft #2 of the essay for peer group response (See the WebCT Intro for specific instructions on how to post).

Groups should start as soon as all members are present. Don't wait for your teacher to ask you to start. Class roll will be taken as groups work.

Groups must sit at adjacent terminals.

Groups must quickly come to order and get down to business.

Groups must give equal time to all members' work.

Everyone must participate.

TASK ONE--Oral Response (approximate time 30 minutes)

Group members greet each other and introduce themselves if they haven't already done so.

The first writer reads her/his own coversheet and essay aloud.

Peers listen carefully.

When the writer finishes reading, the group observes at least two minutes of silence while peers jot down reactions to the coversheet and essay. What works? What doesn't? What questions do you have? (You may use the Oral Response Form if you wish)
Peers give the writer their own reactions and answer the writer's questions.

Peers should complete steps 2-6 for each remaining writers.

TASK TWO--Written Response (approximate time 15 minutes)

Group members exchange essays (on terminals or hard copy).

Each member reads silently the essay of **one** of his/her peers and completes a Peer Response Sheet for the assigned essay (see the Communications Area of the website for all essays' Peer Response Sheets)
Respondents sign the Peer Response Sheet and return it to writers.

Writers quickly read responses to see if anything needs clarification.

IMPORTANT: When draft 3 of the essay is due, writers turn in peers' response sheets with their essays.

II—The General Rules for Cross-class Peer Groups:

Make initial e-mail contact once you have been assigned your cross-class peer

group; write down their names and select them through the Browse button in the Compose Message of the website's

Email area:

1. Send an introductory message to all peers.

2. Share some personal information (age, major, hometown, hobbies, and the like, expand on the info you have posted on the website) and give your topic idea for the essay.

Share coversheet and draft 2 of Essay 3 with your peer group via your Cross-class Peer Group forum in the website's Discussion Area:

1. Word process (use Word or Rich Text Format) the coversheet and draft 2 of Essay x and name them: i.e.: Essay x Coversheet or Essay x Draft 2.

2. See the WebCT Intro for specific instructions on how to post

Find and respond to your out of class peers' coversheets and essays:

1. **Working as a team** with your in-class peers, comment on the coversheet and answer the questions on the Peer Feedback Sheets.

2. Suggestion: one of you could have the out of class peer's files open on your computer, another could Reply to the message where you found the attachment. Respond to the prompts on the Peer Feedback Sheet, simply numbering the responses (no need to copy the prompts). Be sure to give complete and helpful suggestions. See the WebCT Intro for specific instructions on how to respond.

3. If time allows, offer feedback for the in-class peer, responding to pages 215-216 in *Portfolio* and giving them it to them for their records.

Find and print out the suggestions/feedback from your peer group through your WebCT Cross-class Peer Group; then, revise your Essay 3 draft 2 into draft 3 for submission to your teacher.

Group members can continue this exchange at each step of the composition process.

Students may also choose to send their drafts or portions of drafts to the entire class for feedback.

IMPORTANT: When draft 3 of the essay is due, writers turn in peers' response sheets with their essays.

Peer Response Groups--Tips for Success

Tips for Writers:

Read your piece and allow at least two minutes of silence after the reading for impressions to become clearer in the minds of your peers and to give them time to jot down reaction notes for oral response.

Do not rush the reading of your piece.

Ask the group questions about the content of your writing: "What other examples could I use to appeal to my teenage audience? Two sentences are not enough for paragraph three? What else could I say?"

Avoid defensiveness. Let the writing stand for itself and listen openly to the responses of the group members. This will help you revise later.

Do not quarrel with your group's reactions. Maybe what you see is truly there, and others do not see it. But maybe what they see is there, too--even if it contradicts what you see. Just listen, take it all in, and then make your own decision about what the writing needs.

Tips for Respondents:

Use active listening. Do not concentrate on your next comments; concentrate instead on what the speaker is saying. Tell what you think the writer is trying to say by either paraphrasing or summarizing the gist of what has been written. Have the writers read back some of their own words.

As the piece is being read, jot down words or phrases that catch your attention. What is it about those words that make them stand out? What parts of the piece do you like best? How do those parts work for you?

Take advantage of the note taking time after each essay reading and address: What works? What doesn't? What questions do you have? (You may use the Oral Response Form if you wish).

1. Respond to specific sections of the writing. A general response, such as "I like it" or "That's good," does not help the writer find ways to improve the writing.

2. Let the writer know if there is anything in the writing that seems confusing, out of place, or unclear. Explain why you are bothered by that particular section or item.

3. Ask the writer, "What part of the paper do you like best?" "What part was most difficult to write?" "How can the group help you?"

Appendix B
Engl 1010 CAI Portfolio Composition Interactivity Survey

The course I am currently taking offers expanded communication/interactivity through these tools (mark your selections), and I rate them as follows (mark your selections). To move from response to response, you can use the mouse and click on the desired spot or hit the TAB key after each option.

Semester

1)"24/7" Material Availability	Critical Useful Nice to Have Not Useful	2) Email	Critical Useful Nice to Have Not Useful
3) Website Announcements	Critical Useful Nice to Have Not Useful	4) Peer Group DB	Critical Useful Nice to Have Not Useful
5) Personal Home Pages	Critical Useful Nice to Have Not Useful		Critical Useful Nice to Have Not Useful
6) Sample Assignments	Critical Useful Nice to Have Not Useful	7) External Links	Critical Useful Nice to Have Not Useful

1. Does the use of interactivity tools help to **dispel anxiety** about the course—meeting requirements, engaging with the material, etc? yes no
If yes, which is the tool you found most helpful in this area and why:

2. Does the use of these tools help to develop a sense of belonging to a **community of writers** and dispel student isolation? yes no

If yes, which is the tool you found most helpful in this area and why:

3. **What was most beneficial** about using the Small Group DB forums for Peer Feedback work (both to extend in-class and to make cross-class possible)? Be specific (comments for improvement, questions for additional details, suggestions about format, etc.):

4. **What was least beneficial** about using the Small Group DB forums for Peer Feedback work (both to extend in-class and to make cross-class possible)? Be specific (tech problems, extra time, peers not holding up their end, etc.). Share some **suggestions** for how I might improve on this problems:

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Enduring Principles of Teaching [Technical Disciplines] in the 21st Century

By: Rob Byrd
Track 1 - Effective Technology Based Learning Environments
Interest: General :: Lecture/Presentation :: Level: Beginner

Abstract

Reemphasizes the purpose of teaching, which is to help students learn how to learn. Attention is focused on two areas: leadership in the classroom and appropriate use of technology. The right leadership style will motivate students to give extra effort in the course. Specific examples are provided. Building on the concept of teacher leadership style, the concept of appropriate technologies is introduced, with specific examples of how to implement these concepts.

Proceeding

Teaching is a profession. And by definition, a profession is an "occupation requiring advanced training ... and usually involving mental rather than manual work" (Webster's, 1953). Mastering and employing techniques that result in reducing the profession of teaching to a manual skill is not only demeaning for teachers, but ineffective as well. While we generally understand that no teaching method is meant to be merely mechanically implemented, it seems appropriate in these technologically advanced times to refocus on a couple core principles of teaching. Without the expertise and wisdom of a qualified professional, a technique is no different than a checklist of how to bake brownies or assemble a bicycle.

Of course, the primary purpose of teaching is not actually teacher teaching, but

student learning. In this light, two core principles become visible which, if internalized, will hopefully increase the effectiveness of any technically oriented teaching approach. One core principle I hold to is that, as a teacher, I am a leader of students, not a manager of students or classrooms. The difference may seem insignificant now, but my intent is to demonstrate how their difference is essential in fulfilling the purpose of teaching.

And, in an attempt to be completely removed from any educational taxonomy or jargon for which we may already have a preconceived understanding, I will label the other core principle true learning. My goal in teaching is not to simply increase a student's knowledge of a subject, but to increase his/her understanding and capacity for subsequent independent learning of that subject. Without accomplishing this goal I am effectively handicapping the future graduate and not providing to society what it has already paid for, competent and self-sufficient citizens.

Paradoxically, there are techniques, or at least guidelines, for implementing these core principles of leadership and true learning. First, I will lay out the difference between leadership and management by introducing transformational/transactional leadership. I then will give some quick examples of what leadership may look like in the classroom. Next, I will attempt to convey how learning can take place *in spite of* technology by asking some probing questions and providing an illustration of how I have tried to create true learning in a laboratory situation. This approach may at first seem to some readers negative or even antagonistic, but is intended only to make all of us think about how we practice our profession of teaching and to consider ways of making our mission more successful.

Leadership, not just Management

Managing is about efficiency, resources, and organization. In a classroom all of these are necessary. Any unorganized teacher who has to track grades for 150 students per semester will not last. Leadership, on the other hand, is about people and inspiring them to do more than they would have done otherwise—more than they thought they *could* do. The concept of transformational/transactional leadership probably (Bass, 1990) evolved from the Ohio State Studies, where the leadership concepts Task Initiation and Individualized Consideration originated (Seltz & Bass, 1990). Burns (1978) also probably influenced Bass' leadership model.

While the terms and definitions vary from study to study, transformational leadership is generally considered to have four elements: Charismatic Leadership, Inspirational Leadership, Intellectual Stimulation, and Individual Consideration. Specifically, Charisma is the aspect of leadership that provides a clear vision and a sense of mission for the follower. Teachers having this

characteristic instill pride in their school and discipline and give a sense of belonging to the students. Charismatic leaders gain respect and complete trust of their followers. Inspirational Leadership communicates expectations to followers and uses symbols to focus efforts toward the mission. An inspirational leader has the ability to express important purposes in simple ways. Intellectual Stimulation promotes intelligence, independent thinking, rationality, and the development of problem solving skills.

Individualized Consideration is the personal attention given just at the right time in order to carry along the student's interest, understanding of, and commitment toward the vision or mission. Coaching, advising, and showing consideration even for personal/private concerns of the follower are part of this concept as well. Different researchers (e.g., Lowe, Kroeck, & Sivasubramaniam, 1996; Burns, 1978; Conger & Kanungo, 1987; Yukl, 1989) have given slightly different descriptions of transformational leadership than presented above, but all present it as a leadership style that encourages cultural change and the adoption of a new mindset.

Transactional leadership includes elements which could be considered as more traditional management styles, namely, Contingent Reward, Management by Exception (Active and Passive), and Laissez Faire. First, the concept of Contingent Reward suggests that contracts (written or not) are required in order to get the follower to perform some task. If the task is performed according to the predefined agreement, then the reward is given to the follower. Leaders displaying Contingent Reward will recognize accomplishments. With the second concept, Active Management by Exception, a leader watches and searches for deviations from rules or standards and attempts to take corrective action, does not allow for recognition of unexpected successes or accomplishments. Employing this characteristic, one only looks for defects and the negative side of performance. Leaders practicing Active Management by Exception will, however, try to look for deviations before they occur, or, at least as they are occurring, and attempt to minimize the cost of the poor performance or incorrect action. Passive Management by Exception is characteristic of the leader who intervenes only if standards are not met. Laissez Faire, often considered a form of non leadership rather than an element of Transactional leadership, would describe the one who avoids making decisions altogether. This leader would likely be out of the office whenever an important decision needs to be made.

While transactional leadership, including Contingent Reward and Management by Exception (Active and Passive), may not embody all aspects of management, it could generally describe several management roles and affect the outcomes of decisions regarding efficiency, resources, and organization. Researchers have repeatedly found in studies that transformational leadership is more effective than

transactional leadership alone, calling the phenomenon the one-way augmentation effect (Bass, 1997). By leading students and not just managing classrooms, we can be effective as well as efficient. The concept of leadership presented here is not to be confused with the educational term Teacher as Leader, which generally entails taking on schoolwide responsibilities, committees, bearing some of the administration's burden, etc. All those endeavors are fine, and I'm sure, constructive, but don't directly address the present discussion of leading students.

Is it necessary or even possible to be a transformational leader in the classroom? If our primary purpose is student learning, I don't see how we have a choice. Almost by definition, we will be practicing this leadership style as we increase understanding and capacity for subsequent independent learning. This can only be realized by changing the student—or more correctly—allowing the student to change and providing support and direction for that change. Some simple examples of how to practice transformational leadership follow.

Managers-only don't see the point in learning all the student's names. Leaders learn them and use them to show consideration for the individual. This small act instills great motivation and self-esteem in the student. Managers wouldn't ask hard, provoking questions during class time. It would only result in "dead air time" and not be efficient. Leaders ask those intellectually stimulating questions and don't get nervous when no one answers until after ten or fifteen seconds of quiet. It is only then that the students really believe the teacher wants a meaningful answer rather than a rote spout. When handled properly these situations often result in complete engagement of the students. Managers prepare lessons and present them: it's called being organized. Leaders also know the material in the lesson and communicate it to the students in whatever fashion necessary, even if it means using unrehearsed analogies to provide a clearer picture of the concept.

Similarly, managers may put staying on schedule with their syllabus ahead of making sure the students understand the material. Leaders know that if today's material isn't understood, tomorrow's lesson won't mean anything anyway. Managers look at the clock to make sure they are going to finish their presentation in a timely manner. Leaders look into the eyes of the students to make sure there is still an open communication line, and adjust as necessary to keep the line open. Managers reward accomplishment with grades. Leaders additionally provide praise for effort irrespective of the accomplishment, or grade. Managers know they control the reigns because they turn in the grades. Leaders also foster a sense of community, allowing the students to take pride in knowing they had something to do with the success of the course....Well, I hope you get the idea.

There are, undoubtedly, some professors who are very skeptical about this type of charismatic, inspirational, and what they consider "wishy-washy hogwash."

I have met them. But in my experience, over the past several years, the more I try to become a transformational teacher, the more satisfying my work is, and the more effective college teacher I think I am becoming. Remember, transformational elements of leadership are to augment those of management, not replace them.

Learning in Spite of Technology

From the Internet to the electronic chalkboard and from ACT scores to computer lab manuals, technology is a dominant factor in every aspect of education. Is it possible to develop a computer-based computer lab with no direct "instructor" contact? Sure it is. *Simply* (ha ha) write a set of instructions in a clear enough format that all students can understand (after throwing away the concepts of learning styles and multiple intelligences), develop a software tutoring system to guide the learner through the exercise, and computerize a grading system which simultaneously evaluates the student's work and records a score in the teacher's grade book. But before fully committing to such a methodology, or mythology, we need to determine its possible consequences. It's one thing to mass produce rifles using an automated assembly line, but quite another to automate an assembly line of students using tutorials on a computer. Has education already gone too far in automating education? Employers expect their workers to think on their feet, yet teachers hand each student a calculator and implicitly say not to be bothered with quick recall or memorization. Managers want supervisors with effective verbal and written communication skills, yet teachers give multiple choice tests and students think word processing spell checkers correct homonym errors and other inappropriate word usage. And I apologize for not having time to joust every academic department, but mention these because I personally have been guilty on all charges listed above.

[Surprisingly,] I'm not blaming teachers. One cause for this behavior may be the external pressure for teachers to be more efficient, as opposed to being effective. Pressure to get students with ACT scores of 14 to learn the material just like every other student. Pressure to produce. Produce more research. Produce higher retention. Produce, produce, produce. Another source of degraded education may be the evolution of the meaning of learning. Ages ago, learning (at the university level) meant gaining understanding as well as knowledge. That was the distinction between liberal arts schools and technical schools. Now, no matter what is stated in the university's mission statement or the department's degree program, bachelor's degrees are obtained by some students with less than four years of college knowledge and almost no understanding. How do they slip through? Just maybe, technology is not the silver bullet we were looking for to increase the level of true learning on—and off—campuses today. Since most of the constraints just described are not about to go away, what is a teacher to do?

Just recognizing the ensuing technological barrage and its possible effect on true learning is a great start. Although I may have come down hard on technology, I think it is necessary to do so, given the overwhelming attention technology has recently been receiving. Every technology, whether ACT and IQ scores, pencil and paper, or a virtual university, is not either good or bad, but both. And it is impossible to determine the final outcome of a newly unleashed technology (Postman, 1992). Secondly, by continually refocusing on our core principles of leadership and true learning, we can develop strategies which incorporate technology, yet make the student aware that their true learning is what is important to us.

Here is an example from my computer science lab taught primarily to freshmen and sophomore students. One teaching method could be (and in some schools is) to write specific instructions for the student to follow, down to the specific command or keystroke. By the end of the two-hour lab he/she will have completed the assignment and "learned" the topic. The student passes with an A and thinks the material is understood. It never really was comprehended.

Another, less extreme, method would be to explain in great detail the primary operations and algorithmic processes which must be properly coded to complete the assignment in the most efficient manner, even though a class lecture has already been presented on the topic. This may work in some cases, but prevents the student from thinking for him/herself and usually doesn't prepare the student for harder problems unless given the proper algorithm the next time as well.

A third method could be to only define the problem to be solved and give total freedom to develop any operations and processes which may (or may not) solve the problem. The roles of the teacher in the most recently described method would be to empower students to be creative, vigilantly watch as frustration levels get high enough to produce true learning, and to intervene before frustration is high enough to break the student's spirit. When students accomplish something that seems difficult to them there is enormous intrinsic reward, increased motivation, and a craving to be challenged even greater the next time. Students want to be challenged. They also want to be recognized by a real person, not a computerized "+Super job! Bob+."

Furthermore, they want to know that we, the teachers, are in the trenches with them. Sounds kinda like leadership, doesn't it?

A lab assistant in the computer lab is good, but not the same as a caring professor in the computer lab who will immediately recognize when the student's program works. I don't mean to patronize at all, but they want to be able to say, "Look Dad, I did it"—it's human nature. What's really pathetic, I feel like a proud father and all I really did was encourage them when they didn't think they could do it. Sure, this method takes more energy out of a teacher. But the reward is well worth it. It's a phenomenon that technology can't reproduce for the student or for the teacher. And by being in the lab with

the students doesn't mean I am hand-holding and making it easy for them--ask any of my students.

I have applied this nontechnical, empowering approach to the other areas originally mentioned (math, multiple choice tests, and writing challenges) with similar success. When we understand that technology is not the cure-all, but a set of tools at *our* disposal to produce true student learning, our teaching will be effective and we will find or create appropriate teaching methods.

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Enhancing Accessibility with Web Material and Courses

By: Raj Desai, Ted Loso
Track 1 - Effective Technology Based Learning Environments
Interest: General :: Lecture/Presentation :: Level: All

Abstract

Materials developed for use in the regular classroom can be incorporated into the web to improve accessibility to students. Many of our working students are unable to attend classes regularly due to work constraints. Easy access to education and training to potential students is a growing need, as well as servicing industry needs through asynchronous learning for employees.

Proceeding

I. Introduction

With the widespread use and the rapid growth of the Internet, educational and training institutions around the globe are racing towards using the Internet as a new medium of delivery. The world-wide-web is a powerful and exciting medium for communication and as such is a valuable resource for faculty for delivering online instruction. Its ease of use and the capacity as a repository of information and the interactive delivery of content makes it an effective option for furthering knowledge and skill. The advantages of web courses are they can easily be reviewed and changed for currency and accuracy compared to textbooks. As the world-wide-web becomes a state-of-the art delivery medium there is a need among educators and trainers to obtain knowledge about the tools needed for developing and implementing web courses. Easy access to education and training to potential students is a growing need, as well as servicing industry needs through asynchronous learning for employees.

There are various methods of developing on-line courses. There are private organizations that develop software specific to on-line education such as e-College, Blackboard, Web CT, and Top Class to name a few. Many education institutions are using these private distance learning providers for taking advantage of their infrastructure, instructional design features and technical support for delivery of on-line courses.

II. Designing Web Courses

The course developers must provide the following information in their web courses: A header identifying the author and course details, E-mail access to the web course author along with other means of access, information on last revision and date, appropriate citations for text, graphics, video, and audio sources that are not created by the web course author, a link to the University Home Page, a copyright statement, and text elements that can be read while the media are loading1. Some general guidelines2 to follow are: Split your information into logical sections, make sure your starting page is attractive and well laid out, try to have a consistent theme throughout your entire site, try to use colors, styles, and fonts that complement each other.

Try to get to the point on the first page, or at least give people an idea of what your site is about. Make it easy for the viewer to find the information for which they are looking. Ask yourself what things people might be looking for and try to make those things accessible from the main page. Offer a way of contacting somebody in case they don't find what they are looking for. Try to test your pages to see how they look with a different size screen, with the images turned off, a different color resolution, and a different browser. Make sure your site is relatively quick to load, no matter what you put on it. As a rule the page should not be more than 50K. Under normal conditions, this page will load in a few seconds yet allow some fairly good use of graphics. If you have more material, consider separating it on separate pages. Graphics can be stored in a JPEG or GIF format. JPEG format uses "lossy" compression and you can decide the trade off between file size and quality. GIF images will ensure that the images display exactly the same all the time. Use graphics and gadgets sparingly. Some common things that get overused are excessive graphics and background images2.

III. Developing Web Courses

Developing quality web courses takes time3. The front end of your web page should include a welcome screen, syllabus, testing information, posting of grades online, and a bulletin board. There are many different web page editors available in the market today that can be used in order to quickly create a functional Web page. Microsoft FrontPage 2000 is relatively easy to use considering our University's familiarity with the Microsoft Office suite. FrontPage 2000 allows you to create Web pages using one of the pre-developed program templates and from blank pages.

Creating Web pages in Microsoft FrontPage is very easy1. Launch FrontPage, select File in the menu bar, select New from the drop down menu, select web from the sub menu, select One Page Web icon from the new dialog box, specify the location of your Web account, and click on the OK button. When you begin using FrontPage you will find that many of the toolbar buttons are the same as the toolbar buttons found in Microsoft Office.

To save Microsoft Word/Excel/PowerPoint 2000 Files as Web Pages, save your file by going to File in the menu Bar, select Save as Web Page from the drop down menu, select your working web page folder to save the file, make sure the file name textbox contains the proper name, and click on the Save button.

IV. Teaching Web Courses

We have found that initial web course enrollment is higher than traditional course enrollment. This is possibly because time constraints are lifted, and students can work around their regular schedule. It is also much easier for working people to take web courses. Dropout rates also seem to be a little higher for the online students. Since online students have to basically study on their own without much pressure for the faculty, it works better for students who are self motivated. Others who need to be pushed by the teacher would do better in a regular course. Any student, who cannot stick to a regular schedule, may fall behind in their work and eventually drop the course. The number of students who did enroll in a second continuation online course dropped significantly. The reason most students gave was that the online course took a considerable amount of their time to complete, and that it was more difficult for them than a classroom-based course. Grades on average for the past three years are almost the same for web students as compared to the regular students. This result came as a surprise to us. However some case studies support this observation7. This may be because many of the online students are generally working and may have more practical experience in the subject matter, and also may be studying more compared to the regular students. Motivation may be another factor for their performance being similar to the regular students. We have also found from experience that it takes much more time to teach and administer web courses. Other web course developers agree that teaching a web course and maintenance of a web course takes considerable amount of time4. However having said that, we feel that the time is well spent since the material developed in the web courses can also be used in the regular classroom. Student satisfaction is about the same in the traditional course and the online courses. Again the reason may be that students are glad they could get to take the course around their regular schedule. Other authors agree that if you deliver a quality product people will be attracted towards a new technology5. Giving direction when students are stuck with a problem becomes much more difficult with a web course, especially if it is a difficult problem. This would be simple to do in a classroom, as you could gauge the student understanding and explain the solution till the student understood the material. Some authors believe that the web courses will benefit with the addition of synchronous communication component to online couses6.

V. University Support for Web Courses

The Center for Scholarship in Teaching and Learning (CSTL) at Southeast Missouri State University helps enhance professors' teaching and students' learning experiences by providing a diverse source of materials on effective teaching, and incorporating technology into education as is done at other universities8. The home page, which includes the syllabus for each of the classes, bulletin board for students to discuss topics with each other, and online grade information for the students' benefit, were all made with the help of the CSTL. Students are happy to have the means to communicate with each other9 as is provided by the bulletin board program.

The School of Extended Learning at Southeast Missouri State University is making a major push towards offering courses online. The School of Extended Learning is even offering incentives for faculty teaching on-line courses, as are many other universities10. The incentives include a small monetary reward or a reduction in the teaching load during the semester we first teach the course.

VI. Conclusion

Employers are looking for students who have excellent working knowledge of computer systems. In today's competitive industrial environment keeping abreast with emerging Internet technologies and learning/training needs is becoming increasingly important not only for students but also to those involved with technical education. The internet has become an effective delivery medium for providing easy access to education and training needs, as well as facilitating asynchronous learning. Having a good understanding of the tools needed for developing and implementing courses on the Internet is imperative.

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Enhancing a Face-to-Face Course with Online Lectures: Instructional and Pedagogical Issues

By: Thomas Keefe
Track 1 - Effective Technology Based Learning Environments
Interest: General :: Lecture/Presentation :: Level: Beginner

Abstract

Since 1999, and as part of an Ameritech grant, the author has systematically investigating use of streaming media to enhance face-to-face classes. Technology invites experimentation but raises questions about such things as student acceptance, student use, academic performance, and what to do with class time when lectures are put on-line. Students appear to easily master the technology, and today software is available to help the instructor with the task. The harder issues to deal with relate to instructional and pedagogical issues. For technology to be used to its full advantage, it should be used to create an active learning environment.

Proceeding

Introduction

In this paper I will discuss the use of streaming media to enhance a traditional face-to-face class. A traditional course is built around the time honored educational activities of lecture, interaction, and testing. They occur in a seamless fashion, in a fixed order. In a traditional classroom, instruction begins with lecture that is used to provide students with a first-exposure to a course's content. Interaction follows and may take the form of a teacher/student dialogue. Interaction is used to assist students to more deeply process course content. Finally, testing occurs to assess

knowledge transfer. The traditional paradigm implies a fixed order, but there is nothing sacrosanct about it. Others (e.g., Walvoord & Johnson Anderson, 1998) have proposed altering this traditional order. The approach I find most exciting is to use Internet technology to enhance instruction by freeing up time in the classroom for more interaction. In this paper I will talk about pedagogical issues involved in moving lectures of a traditional class on to the Internet as pre-recorded streaming media. The challenge and opportunity of technology invites experimentation but raises questions about such things as student acceptance, student use, academic performance, active learning, and what to do with class time when lectures are put on-line. I have found that students easily master the technology, and today software is available to help an instructor with the task. The harder issues that need to be addressed relate to instructional design and student behavior. For the technology to be used to its full advantage it should be used as part of a strategy employing active learning by creating an active learning environment.

Where to Put Lectures On-line: Courseware

Since 1999, I have used courseware to teach 15 sections of on-line, face-to-face, and enhanced versions of courses. I consider an enhanced course to be one where activities have been selectively moved out of the classroom and on to the Internet to free up time for other classroom activities. When I began looking to take my lectures on-line, the first hurdle I faced was how to create web pages where my students could come for instruction. The Internet is made out of electronic bits and bites that need to be programmed or else they do not behave properly. I am no programmer, and for me the notion of learning to create web pages was an onerous and challenging notion. However, I found an easy solution to my problem. Courseware automates and simplifies the process of developing and delivering distance-education courses. Courseware is a unified suite of Internet-based software intended to ease that burden. Each semester when I create the websites for my course sections, I use courseware created by my University (Indiana University, 2001,a). Other commercially available courseware packages are readily available. See Indiana University (2001b) for a comparison of features among popular versions of courseware. In general, courseware contains a comprehensive tool set including such features as: e-mail, discussion forums (electronic bulletin boards), chat rooms, tests and surveys, and Internet research tools like search engines and library reference databases. According to creators of courseware (e.g., Indiana University, 2001,a; Blackboard, Inc., 2001), it may be used to create an on-line course, or to complement face-to-face instruction.

Students' Confidence with Use of Courseware

My students are non-traditional students, with very little, or no, previous experience with instructional courseware. To determine my students' perceptions about instructional technology, I have been surveying them before and after each semester. I gather information about demographics, psychological measures, and their perceptions, such as courseware satisfaction. In addition, I monitor their software use and course performance. Among other things, the surveys include questions about their confidence that they can competently use each of a variety of software applications including the courseware used in the course. My experiences

indicate that they start out any given semester ambivalent about their ability to use courseware. Specifically, they are neither uncertain nor certain that they can use the software competently. After completing the first survey, students received 75 minutes of training the first day of class. They had the opportunity to practice by using the courseware over the rest of a semester, receiving support from the campus learning and teaching center as needed. Students have shown large improvements in their confidence with using courseware. By the end of a semester, I have found students to be uniformly confident with their abilities to use courseware. They are as confident with courseware as they were with the use of a word processor at the beginning of a semester.

An Approach for Using Internet-based Educational Technology to Enhance Your Teaching

In a pure Internet-based course, all the activities are moved on to the Internet and become accessible 24/7, at times students prefer. Other options are available that fit with sound pedagogical practices. The goal of active learning (e.g., Bonwell & Eison, 1991) is to have students involved in an active learning environment. Figure 1 categorizes the location of various education activities into three types of courses, a traditional, an Internet-based, or an enhanced course. The approach I find most exciting is to use Internet technology to enhance instruction by freeing up time in the classroom for creating an active learning environment. Figure 1 indicates in this enhanced course, everything but interaction has been moved out of the classroom and onto the Internet. More generally, I consider an enhanced course to be one where activities have been selectively moved out of the classroom and on to the Internet to free up time for other classroom activities such as active learning. This use of the technology has been the guiding principle in several course redesigns that I have performed over the summers of 2000, 200, and 2002. Specifically, I have experimented with using Internet technology to free up classroom time by removing lectures, pre-test, evaluative exams, and administrative activities from the face-to-face classroom and using the time for more interactions.

Figure 1
Location of Activities

	Lecture	Interaction	Testing	Administration
Traditional	Face-to-face	Face-to-face	Face-to-face	Face-to-face
Internet-based	Internet	Internet	Internet	Internet

Enhanced	Internet	Face-to-face	Internet	Internet

However, before you take the plunge and go on-line, I need to raise some caution flags. Reviews of the distance-education literature have looked at the impacts of using technology to perform various education activities that have traditionally been done face-to-face in a classroom. The "no significant difference effect" is arguably the most enduring phenomena in the distance-education literature (Russell, 1999; Hanson, Maushak, Schlosser, Anderson, Sorensen, & Simonson, 1997; Wetzel, Radtke, & Stern. 1994). It supports using more technology in education, but not because it increases teaching effectiveness. According to this phenomenon, since technology is as effective as traditional means, it should be used because it is cheaper and more convenient. Ironically, if the "no significant difference effect" is true, technology makes no difference, is unimportant, and can be justified, only, based on cost and convenience. What we will look at next are some good, solid educational reasons to move lectures and other activities onto the Internet. To better understand the logic of the approach I have been taking, it is helpful to look at communication theory.

Communication Theory & Internet-based Instructional Technology

Bringing students together in a classroom is a perfect place for face-to-face interactions among instructors and students. However, the traditional approach is to use class time for one-way lectures. Educators have criticized the use of traditional lecture for being a monologue rather than an interaction (e.g., Bonwell & Eison, 1991; Johnson, Johnson & Smith, 1991; Walvoor & Johnson Anderson, 1998). Using class time for one-way lectures may be a waste of valuable educational time. To better understand what activities are best put onto the Internet and what activities to keep in a classroom, it is helpful to look at Internet-based instructional technology as a set of communication channels.According to communication theorists (e.g., Daft & Lengel, 1984; 1986), the selection of an appropriate media channel is key to effective communication. Seen in this light, to make education more effective by using instructional technology requires the appropriate selection of communication channels based on the nature of the specific task to be performed.

Media are the means used to transfer a message between a sender and receiver. Media vary in terms of information richness (e.g., Daft & Lengel, 1984; 1986), which is the information carrying capacity of a media; and messages vary in terms of complexity, or their demand for carrying capacity. When a match occurs between the carrying capacity of a media and the complexity of a message, effective communication happens. Oversimplification or overload occurs when the carrying capacity of a media does not appropriately match the demands of the information being communicated. For example, in a traditional lecture, the instructor talks and the students listen and take notes. When lectures are a one-way process, the same outcomes may be achieved by streaming lectures over the Internet as by lecturing in class. Lecturing in class is a time intensive activity that requires coordination between students and an instructor who must repeatedly travel to the classroom.

Using class time for one-way communication may be seen as a waste because of oversimplification – the tasks are too simple given the information richness and value of face-to-face experience to warrant use of class time in this way.

According to Daft and Lengel (1986), face-to-face communication is the richest media because it allows the participants to simultaneously employ verbal and visual communication, as well as body language and immediate feedback. As in the example of an enhanced course in Figure 1, it would seem that information richness of face-to-face communication is best suited to the demands of interactive teaching that were used to fill the time in class created by moving administrative, lecture, and testing activities on-line.

Education experts stress the need for more interactions of students with instructors and other students. For example, Hatfield (1995) lists seven principles of good practice built around interaction as ways to improve undergraduate education. Others advocate techniques like active learning (e.g., Bonwell & Eison, 1991), or collaborative learning (e.g., Johnson, Johnson, & Smith, 1991). All of these techniques rely on increased levels of student interaction to foster student motivation and learning. In terms of communication theory, interactive teaching techniques like this require the presence of communication channels that allow feedback to occur, the more promptly the better.

Even though face-to-face communication can satisfy the communication demands of interactive teaching techniques, there are a variety of Internet-based media available to enhance the process without the cost of using up valuable face time. Figure 2 displays media commonly used in Internet-based and face-to-face education listed side-by-side. It displays communication channels categorized by types and synchronicity of interaction. In terms of interaction type, Figure 2 classifies media channels as either interactive or one-way – with or without feedback. Synchronicity refers to the timing, or synchronization, of communication transfers between a sender and a receiver. Figure 2 indicates that the timing of a message can be classified as synchronous or asynchronous. Synchronous means "live," that communication between a sender and receiver takes place at the same time. To be synchronous, communication does not have to be face-to-face; it does have to be simultaneous. Asynchronous communication does not have to be on-line; it means that a message is sent and received not at the same time. Any pre-recorded message is asynchronous. Documents are a form of asynchronous communication because the message is read at a different time than it was written. Asynchronous communication is not even predominately the domain of the Internet! Yes! The professor who assigns Aristotle for reading is using asynchronous communication. Asynchronous Internet-based instruction, or AIBI, is a new term. AIBI sounds more mysterious than it is. It is frequently used to indicate an asynchronous communication channel unique to the Internet. As we have learned, while the Internet and AIBI are new, asynchronous communication is not. More importantly, all of the asynchronous media channels available in an Internet class are also available in a traditional face-to-face course enhanced with instructional technology.

Figure 2
Classification of Educational Media by Type of Interaction and Timing of the Message

	Timing of the Message	
Type of Interaction	**Asynchronous (pre-recorded)**	**Synchronous (live)**
Interactive (With feedback)	Internet-based: A. Discussion Forums B. E-mail	Internet-based: A. Keyboard-based chat, Audio Chat, A/V Chat Face-to-face: A. Instruction (such as dialogue, exercises, or projects, both individually or in a collaborative environment for instruction)
One-way	Internet-based: A. Postings (such as assignments, syllabus, schedules, texts of lectures, reading assignments for *multiple purposes*) B. On-line tests C. Streamed Lectures D. Internet links E. Other technologies: CD-ROMS/DVD's, Videos Cassettes, Audio Cassettes Face-to-face: A. Books B. Handouts C. Other technologies: CD-ROMS/DVD's, Videos Cassettes, Audio Cassettes	Face-to-face: A. Lectures B. Tests

Gaining Face Time by Streaming Lectures

Want students to come to class prepared to interact on course content, and at the same time be sure that you have covered all the material for your course? I have always wanted to incorporate interesting interactive teaching techniques that I had heard, or read, about but I have felt an obligation to use class time to cover course material. An important point that I am beginning to appreciate is that a decision to use–or not to use-Internet technology in a course should not be looked as a tradeoff between utilitarian concerns and teaching effectiveness. By using Internet-based communication channels, sometimes you can have your cake and eat it too. To make sure that students come prepared to interact and to be able to cover content, I use pre-recorded lectures streamed over the Internet and on CD-ROMs. Students are directed to watch the lectures before class in tune with the course schedule. Then, the class meetings are used solely for interactions focused on more deeply exploring the material that has been covered in the lectures and textbook. To assure that students watch lectures and read the book before coming to class, I use on-line pre-tests supported by participation credit.

The pre-recorded lectures that I have been streaming over the Internet take the form of narrated PowerPoint © slide shows that can be accessed from links in the course's website on courseware to the textbook publisher's website, and from CD-ROMs, played using Microsoft's © multimedia player. Readers are invited to browse and play course lectures on-line by visiting the website for Krietner and Kinicki's textbook (2001) using Microsoft Internet Explorer © at http://www.mhhe.com/business/management/kreitner5e/student/olc/ch01lecture.mhtml.

Conclusion

Clearly, distance education technology can be used in both Internet-based and face-to-face classrooms. The challenge and opportunity of technology invites experimentation. Interestingly, I found that high levels of technology could be associated with high levels of interaction. The possibilities raise questions about student acceptance, use, and academic performance that are yet to be fully investigated. I have found that students easily master the technology, and today courseware is available to help an instructor with the task. The central point of their efforts was to use computers to increase student interaction based on frequent dialogue and prompt feedback, thus fostering motivation and learning in their classrooms.

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Evaluating ELearning: A Front-End, Process and Post Hoc Approach

By: Temba C. Bassoppo-Moyo
Track 1 - Effective Technology Based Learning Environments
Interest: General :: Lecture/Presentation :: Level: All

Abstract

The proliferation of online courses has become a major concern for some educators when it comes to whether they apply valid and reliable instruments to assess learning outcomes. This presentation explores eLearning from two related perspectives of planning and evaluation. The initial phase explores current and recommended front-end approaches to improving online instruction. The second phase looks at several approaches to online measurement and testing methods that are designed to eliminate administrative and technical problems associated with eLearning.

Proceeding

The proliferation of on-line courses has become a major concern for some educators when it comes to whether they apply valid and reliable instruments to assess learning outcomes. In addition, few publications seem to have dealt with the faculty realm that addresses the front-end fundamental learning principles of instruction that underlie quality of online learning. For, example what are the administrative requirements which determine quality of online instruction when compared with traditional instructional approaches? What constitutes eLearning, and how similar or different is this method of instruction with other computer-based instructional delivery systems? What types of front-end analyses can be applied when establishing eLearning environments, and how do these front-end analyses or procedures compare with other course management or instructional delivery strategies.

Overall, there does not seem to be a clear co-ordination or consensus of thought and methodology between what is expected from online courses, and what is generally delivered. As a result, course management systems, which are mainly computer-based, vary in type and delivery approach from institution to institution. In the meantime national standards associations have shifted the focus from traditional input resource metrics, to overall dimensions of quality of the educational experience that emphasize the inclusion of hypertext-hypermedia technology in course delivery environments.

Looking at an instructional strategy that has generally been viewed as less than reliable in eliciting valid performance measures, educators are beginning to look at eLearning in a more critical perspective. The issue of online testing and assessment has always presented problems, especially when one considers the pervasive absence of face-to-face interactions that are the cornerstones of traditional education. Generally, in addition to proctored tests and other measurement instruments, face-to-face interactions enable teachers to use informal observation techniques to gauge student response, obtain feedback, and progress toward prescribed goals. This lack of nonverbal cueing, a technique rampant in traditional delivery systems, poses a great challenge to online assessment.

This presentation explores eLearning from three related perspectives, two of which address the planning and administration of online courses. The latter part of this discussion looks at the evaluation and assessment of learning outcomes in an eLearning environment.

The initial phase thoroughly explores current and recommended front-end approaches to improving online instruction. It looks at the organizational aims and the vision within which eLearning can be applied.

For example, this phase answers the types of questions that relate to what eLearning is? The organizational aims of establishing eLearning which mainly focus on:

- the fostering of significant learning improvements, using the most advanced and proven educational techniques.
- the provision of present and future students with the information and communication technology skills they will require as employees in a knowledge-based economy.
- the facilitation of collaborative learning experiences among teachers and students through electronically based educational projects.
- the development of staff who are professionally informed in understanding the opportunities presented by eLearning and for professional development courses to improve their skills.

The second phase examines the planning, implementation and administration of online courses. It investigates characteristics of effective eLearning environments

that address physical, technical, pedagogical, professional and environmental elements that include:

- geographically boundless, networked, community learning centers.
- learning communities that are integrated into even wider global communities that allow for authentic links between and among each other.
- an environment where reliable, high bandwidth networks allow the eLearning "school" to become more than a physical location.
- interregional "learning hubs" that allow for both physical and virtual classrooms that also allow for the administration of both synchronous and asynchronous learning environments.

The third and final phase explores several reliable and valid approaches to online measurement and testing methods that are designed to eliminate such problems as plagiarism, technical problems associated with access, matching learners' and instructors' technical skill levels, learner isolation, and the impersonality of computerized assessment. The study explores assessment strategies that include:

- Showcasing
- Portfolio Assessment
- Affective assessment
- Selected-response assessment
- Constructed-response assessment
- Learning record models
- Moderation processes
- Controlled standardized scores

Finally the study looks at maximizing instructor control over assessment conditions and increasing online instruments validity and reliability while at the same time addressing issues that are administrative in nature. Future cutting age assessment of learning outcomes techniques are discussed in regard to how they may affect online instructional design and technology application strategies.

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From the Course Standards Foothills to Peer Review Mountain and Beyond

By: Mary Nunaley, Skip Sparkman, David Warner
Track 1 - Effective Technology Based Learning Environments
Interest: Faculty :: Lecture/Presentation :: Level: All

Abstract

While considering student evaluation, standards and peer review issues, institutions expect students on the physical or virtual campus to have similar learning experiences. Peer Reviews afford opportunities for instructional development, since reviews anticipate that faculty learn, both from evaluation "of" a colleague(s), and from evaluation "by" a colleague(s). Faculty and administrators may need to modify current approaches or establish similar tools for distance learning assessment. Participants will discuss a distance learning Peer Review process.

Proceeding

Peer Review is the final step in the process of ensuring the success of course development and delivery. Once a determination of course standards is completed, employing a Peer Review process can check for quality and accuracy as well as how the student experiences the course and how the course design anticipates the achievement of learning outcomes for the course. This paper reviews the process used by Volunteer State Community College, from the development of course standards for Distance Learning Courses to the development of a formal Peer Review process of Distance Learning Courses. This review discusses what has been learned, the methods employed and what is working (or not working) for our institution.

Student Evaluations

The first step in course review is the student evaluation. At Volunteer State Community College, faculty was asked to develop a set of standards for distance learning, while utilizing the current student evaluation for courses. Although there should not be a substantive difference between the course content presented in the face-to-face course room and the distance course room, challenges arise (in the evaluation process), due to the nature of the delivery format.

A result included a revised student evaluation form to better address the differences in delivery for distance learning courses and the development of standards are to be applied to all distance learning courses.

In order to review this evaluation process, students were asked to participate in a focus group to provide their perspectives on the student evaluation form questions, distance faculty members were interviewed and a survey of existing literature was conducted.

Course Standards

The second step was to develop Standards. According to Miriam-Webster's Dictionary online a definition for standards includes: *something set up and established by authority as a rule for the measure of quantity, weight, extent, value, or quality.* The Distance Learning Committee at Volunteer State Community College was given the task of developing a set of comprehensive standards for all Distance Learning Courses. These standards were based on the student evaluation of all courses. Five (5) key areas included:

- Syllabus

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- Schedule/Calendar
- Communication
- Course Materials
- Community

Comprehensive standards were developed which would assist faculty members in determining how well their course was meeting the pedagogical and technological needs of the students. Each standard includes **Musts** – those items that every course absolutely had to include and **Shoulds** – those items that it would be nice for a course to include.

After the distance course standards were completed, reviewed and endorsed by the Distance Learning Committee, the Deans for each division and the Vice President of Academic Affairs provided their support and assistance for incorporating this improved method of looking at instruction. (for specifics, see the 2002 Conference Proceedings paper: "From Key Handouts to More Hands On Keys: Planning for the Progressive Use of Technology by Faculty," Nunaley and Warner.)

Course Peer Reviews

The final step in the process was to create a Peer Review process that would provide faculty members feedback throughout the creation of a new distance learning course. Each faculty member is to be assigned a "Peer Review Team." The team includes: (1) a member with a strong technology background (to look at design, course structure and accessibility issues) and two content reviewers, (2) (one of which may be a professional from the community). Content reviewers can be from industry, in the case of AAS programs, or members from the college or other professional association with, individuals who possess a special expertise in the content area. (3) The second content reviewer (and third member of the team) will be a faculty member at the college.

The Peer Review process was designed to provide assistance before the course was officially offered to students. The conduct of Distance Course Peer Reviews will proceed, with the five (5) Standards areas providing a review framework. (See appendix for a sample Peer Review Form).

At Volunteer State CC, a Peer Review process exists for evaluating face-to-face teaching. This process provides feedback to the faculty member concerning course delivery. The Peer Review Process for distance courses will provide feedback during course development. In creating this change to the system, several areas of concern presented themselves:

How will faculty react to their course being reviewed before the course has been taught?

Who will appraise the Peer Review process?
What guidelines will be provided to Peer Reviewers?
Who will be the Peer Reviewers?
When will the Peer Reviews occur?
Will Peer Reviewers be rewarded (compensated) for their participation in the process? [s1]

What are some obstacles to this process?

What materials, support and supplies will be required to complete this process?

The Distance Learning Committee is a college-wide standing committee with representatives from different divisions and departments. The Director of Distance Learning is an ad hoc member. The committee examined the issues noted above, and subsequently, spent numerous hours researching, discussing and debating the individual issues before adopting a format that would serve our institution and faculty.

How will faculty react to their course being reviewed before the course has been taught?

One of the key topics was how faculty would react to having their course peer-evaluated because a new face-to-face course does not require a prior and formal evaluation before a course begins. The Distance Learning Committee determined that it was critical to review a distance course before offering the course because of the many challenges faced by both the instructor and the student. The faculty member who is developing the course will know up front that the Peer Review process is a partnership designed to provide the best possible outcomes for all involved.

Who will appraise the Peer Review process?

Other distance learning instructors, department Chairs, division Deans, and ultimately the Vice-President for Academic Affairs will appraise the Peer Review process. The success (or failure) of a Peer Review process can also be validated by student evaluations and whether a student has achieved the desired learning outcomes.

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What guidelines will be provided to Peer Reviewers?

The issue of guidelines for Peer Reviewers was also addressed. A short handout (see Appendix A) [s2] was created to help focus the reviewer. The five key areas from the Course Standards were chosen for Peer Review of a distance course. Each aspect of the distance course will be subject to an examination for compatibility with the standards for Course Syllabus, Course Calendar, Communication, Materials/content and community building.

Feedback is to be provided the faculty course developer throughout the design phase so the course developer has the opportunity to incorporate any design or technical changes before offering the course to students. Each Peer Review form also provides space for additional comments and suggestions.

Who will be the Peer Reviewers?

Another key part of the process is to designate a reviewer who looks specifically at technical issues. ADA compliance, the proper use of technology and links that are accurate and working are examples of review areas. Other reviewers are looking for accuracy of content, ease of use, flow of the course (structure) and how the course is designed to encourage student interaction and community building.

Distance Learning Committee members also discussed the possibility of a recruiting several student reviewers. The student reviewer would review the course from the student's perspective and look only at course layout and ease-of-use. The choice of members of the review team is accomplished by consulting with the course developer and by seeking additional recommendations from the appropriate division Dean.

When will the Peer Reviews occur?

Ideally, the Peer Reviews will occur during the development stage of the course. By providing feedback throughout the development stages, potential problems in areas such as accessibility, communication and ease of use is correctable before students encounter difficulties.

Existing courses should receive a Peer Review. Faculty currently teaching a distance course can benefit from a Peer Review. For courses that have used the distance format for multiple semesters, a reasonable time for a course Peer Review could be with the adoption of a new text or new edition to a text.

For new courses, this process should occur within one year of the initial course offering. This will allow the developer and the Peer Review team and opportunity to improve the course based on both student evaluations and Peer Review comments.

How will Peer Reviewers be rewarded (compensated) for their participation in the process?

The issue of compensation for Peer Reviewers is a "hot" topic. In an environment where budgets are growing ever tighter, additional financial compensation is not always practical.

Possible forms of compensation include additional release time, viewing Peer Review as the equivalent of committee service, or counting service as a Peer Reviewer as service "above and beyond the call of duty" for the college when promotion and/or tenure packages are being prepared. Many faculty members are troubled with the prospect of becoming a course Peer Reviewer because of the extra time requirements.

Some form of acceptable compensation will need to be in place in order to make the Peer Review program, not only viable, but also worthwhile for the faculty time commitments. The use of Peer Reviewers from outside the academic institution (content professionals) will also need institutional discussion. What form of recognition and/or compensation will be required for these members of review teams?

What are some obstacles to this process?

There are several obstacles to instituting a course Peer Review process. One of the greatest obstacles is the lack of support from faculty. Faculty may be apprehensive they are receiving a critique and that the Peer Review process may interfere with their academic freedom. Other faculty may have reservations related to the time commitment involved if they become a Peer Reviewer. Training is a second area of concern that requires the attention of the institution. How will Peer Reviewers receive training? Will faculty trainers come from the faculty pool, who are already teaching at a distance or will trainers be faculty members who are content experts but have little or no technology training? Should the Peer Reviewer who is not currently teaching a distance course still have had the experience of being a student in a distance course (to effectively evaluate a distance format course)? A third obstacle is funding. Will there be money available to provide training? Should or will additional compensation be provided for Peer Reviewers? How will content experts from outside the college be approached and should or how will they be compensated for their time? In many instances, the obstacles may seem so overwhelming that the entire project is dropped. Since Peer Reviews strengthening a course is a worthy goal, a thorough analysis of obstacles should be accomplished, and each institution should encourage creative solutions.

What materials, support and supplies will be required to complete this process?

In order to accomplish the Peer Reviews of distance courses, whether existing courses or courses proposed for development, an institution will need to plan to provide Peer Reviewers specific support.

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The Director of Distance Learning must provide guidance to Peer Review Teams. This guidance will entail discussions of an acceptable time frame for completion of the process, areas of responsibility for each course reviewer, provisions for on-going feedback to the faculty course developer or current instructor and a discussion of the objectives and purpose of the Peer Review process.

WebCT is the institution-chosen course management program at Volunteer State CC. Peer Reviewers must be familiar with basic navigation of a WebCT-based course. This knowledge will be especially important if a Peer Review member is chosen from outside the institution (as a content specialist) or is a faculty member is chosen for the course review if the faculty member does not currently teach a distance course (using the WebCT course management program). Other institutions may use a different course management program, such as BlackBoard, and may need to plan for navigation training for course reviewers.

Providing specific guidance to course Peer Review Teams should also include the specifics of course standards adopted by the institution. Course standards may be provided at an online location or by other means, such as disk, CD or paper copy. In addition to a review of course standards as guidelines, Peer Review team members should be provided an evaluation instrument. The instrument may be in paper or electronic form.

Finally, consideration should be given to the issue of type of access to a faculty member's course. Since Peer Review team members must be able to view the course materials and to tour course site, access (including passwords) must be arranged with the WebCT (or other course management program) Administrator. Arrangements for course access should be agreed upon in advance.

Conclusion

The Peer Review process is a worthy [s3] if not essential undertaking. Consideration must be given to the resources required (training, materials, compensation, and time) and the atmosphere and manner in which it is presented to faculty. The Peer Review process when done properly, can increase student retention in distance classes, increase course developer satisfaction by providing a system for continuous feedback and review and provide the institution with a method for assessing additional training needs for distance courses. Any institution considering adopting a Peer Review process must spend time looking at existing standards and evaluation formats and should conduct a needs assessment to determine the assistance faculty members might require. In order to be a success, the Peer Review process must have the full support of the Chief Academic Officer, Division Deans and faculty currently teaching at a distance.

Appendix A: Distance Learning Peer Review Analysis Form

Section 1 – Syllabus

Detailed Course Syllabus Available on WEB site Includes Course Description

Objectives = on-ground section Clear Course Requirements

Contains Text Requirements Includes Technology requirements

Comments:_____

_____

Section 2 – Schedule/Calendar

Structure Encourages timely assignment completion Establishes clear deadlines

Easily understood and followed directions Course Materials match explanations

Includes agenda for any scheduled meetings

Equitable distribution of assignment within semester

Comments:

_____

_____

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Section 3 – Communication

Course provides "Teaching at a Distance" communication devices to engage students

Communication methods included in syllabus

Provides adequate student/faculty and student/student access

Timeliness on evaluations noted Office Hours and Office Phone noted

Email address noted Faculty/student contact established

Course Progress Reports provided Provision for student course evaluation

Comments: _____

_____

_____

Section 4 – Course Materials

Content equal to classroom course Orientation of students to course achieved

Student achievement levels equal to classroom course

Explanation of use of class resources is clearly provided

Appropriate learning experiences for outcomes and challenging to students

Consistent organizational pattern Evaluation Guidelines provided

Grading procedures are clear

Comments:

_____

_____

Section 5 – Community

Provides interaction for student and course material, student and faculty, and students and classmates

Personalizes learning environment Respects talents and learning methods

Provides for timely response to questions, concerns, and comments

Includes provision for class discussion

Comments:

_____

_____

Peer Reviewer: _____ Date:_____ Approved

Peer Reviewer: _____ Date:_____ Approved

Peer Reviewer: _____ Date:_____ Approved

[s1] "or will they be rewarded (compensated)

[s2] (type of checklist)

[s3] (if not essential)

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Student Recommendations for Discussions Boards: Conclusions of Student Problems

By: David Warner
Track 1 - Effective Technology Based Learning Environments
Interest: General :: Lecture/Presentation :: Level: All

Abstract

Course discussion boards provide for previews, ongoing discourse, summaries and tools to extend discussion beyond the classroom. They also provide opportunities for replication of in-class discussions in a virtual classroom.

Asking what students recommend for discussion board-use, in addition to comparing comments, based on delivery format is useful. Comparisons of student comments and analysis of comments from a face-to-face course with web-enhancements, a video-based, hybrid course with web-enhancements and a web-based course will be discussed.

Proceeding

Course delivery formats (and course management programs) may vary from institution-to-institution. However, three (3) course delivery formats are common approaches in higher education institutions:

1. A "face-to-face" course, often referred to as a "traditional" or an "on-ground" course, is one which meets regularly throughout the quarter or semester. Course meetings may be once, twice or three times weekly, or more often for accelerated courses (courses meeting during a "mini-term," a five-, eight-

or ten-week summer term, for example).

2. Video-based/hybrid (or CD-ROM-based) courses include a series of videotaped lessons (lectures, for example) to supplement the traditional course reading materials. This course format requires students to meet, at least once (for an orientation) and up to, as many as, four or five times during a term.
3. Web-based courses usually have no meetings in a face-to-face setting. Variations on this delivery format do exist. For example, some instructors may require a "beginning of the course" orientation meeting or a pre-course orientation for distance students (an institution-sponsored orientation). Course materials may include videotapes (and/or CD's) as additional course materials or as materials to supplement course content normally contained in textbooks and other supplementary reading material.

A course discussion feature can be used to supplement or extend classroom discussion, regardless of the course delivery format being utilized, whether a face-to-face course, a video-based/hybrid course or web-based course. Discussions provide a vehicle for student-to-student interaction, often with a students-to-instructor interaction component. The use of a class discussion feature is a common instructional approach in a variety of courses and can be easily integrated into a course, along with other instructional approaches. In addition to lecture, lab experiences, case studies and other instructional approaches, student-to-student interactions can extend discussion of course topics beyond the classroom and/or present alternatives to lecture. Student interaction in pairs or small groups can enhance the learning experiences of all participants.

In face-to-face classrooms, discussions might be conducted between pairs of students, within small groups or by and between members of the entire class. The content of the discussion may remain "private" (shared among the discussants only) or may be "public" (shared with other members of the class). The choice between private and public is an instructor-choice. Discussion may extend "beyond the classroom" to additional student meetings. Computer-mediated discussion can be arranged to provide for the "private vs. public" discussion approach.

In a video-based class face-to-face meeting, pairs or small groups of students may conduct discussion between themselves with an instructor moving from pair or group to the next pair or group to analyze or offer guidance. The instructor may choose for pairs or groups to "share" their observations, findings, analysis or answers with the entire class. As with a face-to-face format, students in this meeting format may be asked to meet together at other times. Again, computer-mediated discussions allow the instructor to "join" a discussion as needed.

With a web-based course format, discussion among pairs or groups of students is replicated by using the discussion feature. In order to replicate face-to-face discussion, students are assigned a "Presentation Group," an approach where discussions of student groups (or pairs) are managed by an instructor. Discussion board messages may be private (only viewable between group participants and instructor) or public (open to review by all members of a class, including the

instructor).

Discussion "challenges" can occur when discussion moves outside a physical classroom. Project teams (or pairs) can meet at designated times or "flex times" (times can be arranged between students to fit the student participants schedules). Outside-class meetings extend the learning experience beyond the scheduled meeting times "in class."

Students may, however, find it difficult to schedule mutually agreeable meeting times for a variety of reasons. Married students and single parents have family responsibilities. Working students' schedules can create conflicts. Class schedules create conflicts. Campus activities and commuter time are additional roadblocks.

Even though outside-class physical meetings are arranged for student teams, faculty members cannot easily guide or facilitate student discussion outside a standard classroom or other pre-designated site or location. The time constraints related to monitoring the activities of many groups meeting during the week will make it difficult, at best, for an instructor to consider scheduling meetings with student groups. An alternative method to "meet" with groups to facilitate student discussion is beneficial to, both students, and instructor. A computer-mediated discussion is an alternative.

Use of a web-based discussion feature can be beneficial for different course delivery formats. Valuable "in-class" meeting time for "face-to-face" courses or meetings is maximized when a computer-mediated discussion component is added to instruction. Finite blocks of time and limited meetings in video-based/hybrid courses are better utilized with computer-mediated discussion. Finally, web-based courses can better replicate class discussion with a computer-mediated discussion feature.

In all three formats, online discussions supplement and extend classroom "discussion." An additional advantage can include a permanent record of the "discussion," a valuable resource for instructor analyses.

Two common course management programs at institutions are WebCT and BlackBoard. Both have discussion board features. In addition, institutions may have some instructors who choose to use Microsoft FrontPage software (or some other web-authoring software) to develop a "course" which includes a discussion feature. With the approaches and software noted above, a discussion features are integrated into courses and used as, both instruction and communication tools.

An online discussion feature can be available for all three delivery formats, as noted above. Using an institution's course management program for course delivery, such as a WebCT or BlackBoard program, enhances courses by offering additional opportunities to engage students in discussion. If either program, or a similar program, is not available, separate web-authoring programs are available

for the task, such as Microsoft FrontPage.

PRELIMINARY PLANNING:

In order to encourage students to use an electronically-mediated discussion feature in a course, the instructor will find it useful to develop perspectives concerning student motivations. Students may not willingly use the discussion feature provided for a course.

1. Since three distinct course delivery formats (face-to-face, video/hybrid and web-based) were to be considered, student input was expected to be gathered from classes representing the three formats. Comparisons to find similarities and differences between students enrolled in classes with different formats was considered.

   A course discussion feature, as a communications tool, could be an integral part of courses with distinctly different delivery formats. A course management system (like WebCT) can provide this opportunity

   A decision was made to gather input from students enrolled in a face-to-face course(s), a video-based/hybrid course(s) and a web-based course(s).

   Further, another decision was made to gather student input from the same term or back-to-back terms in order to minimize differences (courses often entail instructor or text modifications from one term to the next).

   Student input came from one term, with a repetition (to check perception) the following term.

2. Student perspective on the use of class discussion boards should be similar. In the broadest view, students who had the same learning experiences in a course would help to "level out" differences between student observations from different sections than if the student respondents came from different courses. The same or similar courses were necessary to maximize similarities in student course perspectives.

   The chosen course was a general education required course, Fundamentals of Speech Communication, a freshman level course. Course delivery uses all three of the course delivery formats previously mentioned. Chosen for this study were course sections from each of the three delivery formats. A "follow-up" inquiry was completed the next term, using an additional face-to-face and a video-based/hybrid section.

   The Fundamentals of Speech Communication course was especially useful because this "hybrid" course includes a unit on group communication with a problem-solving emphasis, in addition to

interpersonal communication and public address units. The problem-solving topic suggested an evaluation approach for the students to consider discussion board-use: the course assignment for this group of chapters (group process and problem-solving) might address the use of discussion boards.

3. Besides the same or similar courses, the approach to discovering student viewpoints should be the same or similar evaluation approach in all classes.

   The Student Evaluation of Instruction (in addition to course Peer Reviews), and conducted by most institutions (in some fashion) each quarter or semester is a useful planning and evaluation tool for the instructor. These evaluations, usually scaled-question surveys of student opinion (and written comments), provide instructors valuable information to analyze student perspectives for course modifications. In short, Student Evaluations of Instruction ask the students the question: "what works for you?"

   A decision was made to find some variation of a broad-based survey of students to better gauge attitudes, and to find what features of discussion board-use would be encouraging and/or supply motivation for student-use. As noted above, the problem-solving approach presented in the Fundamentals of Speech Communication text provided a usable framework for the students to consider discussion board-use.

   Student problem-solving groups discussed the following problem: "What should be done to encourage student use of a course discussion board?"

4. Student feedback should be free of constraints. If the students' evaluations are a "serious" undertaking, the assignment or "evaluation" should be presented in a manner so students would not feel compelled to give what they perceived to be the "correct" observations. When students supply their input, they should not feel their answers affect their course grades.

   A decision to "require" the completion of the steps in the problem-solving process resulted. Students recorded their input for each step in the problem-solving process for the instructor. For student evaluation (and a grade), individual students completed a separate set of assignments to evaluate the discussion process itself (leadership aspects, participant roles, et. al.).

PROCEDURES:

In order to provide student problem-solving participants, both individual and personal experiences (and attitudes) concerning the use of course discussion boards, an assignment was designed to teach students the fundamentals of

discussion board use, in combination with a course assignment. In all three course delivery formats (face-to-face, video-based/hybrid and web-based), course materials and communication tools are provided, using the WebCT course management program.

1. A "Self-Introduction" assignment was created to afford students the opportunity to learn to post to a specific topic, reply to messages and to post additional topics on a course discussion board. Students were given step-by-step directions for each of the phases of the assignment.

   In the initial phase, the student assignment required posting of an individual self-introduction on the discussion board while following the assignment guidelines. The assignment requirements included three fully developed paragraphs concerning themselves. Students received twelve suggested categories of information, from which to choose, in order to write a self-introduction: skills, abilities, knowledge, competencies, personality, cultural background, their environment, influential acquaintances, experiences, activities, work, goals or values.

   In the second and "follow-up phase," students wrote replies to, at least, three other members of the class. Students answered three questions for each reply: (a) What do you and I have in common? (b) What do you admire about the person you are replying to? and (c) What other information/areas would you like to discuss?

   Students learned the basic operation of the discussion board with this assignment: selecting a topic to read messages, opening and reading a message posting, replying to a message, reading replies and replying to message replies.

2. Once students had a working knowledge of discussion board basics, including interpersonal experiences, an explanation of a 5-step problem-solving process was provided. Students read the textbook explanation and listened to the instructors lecture on the steps (and/or read online posted lecture notes) in the web-enhanced, video-based/hybrid course and web-based course sections.

   The five-step problem-solving process is a variation of Reflective Thinking:

   Step 1: Defining the Problem entails defining unclear terms (in addition to other requirements)

   Step 2: Analyzing the Problem directs discussants attention to problem causes, effects and the degree of "hurt" or damage caused by the problem.

   Step 3: Determining Criteria seeks to discover standards a working

solution would meet, based upon the causes identified in the previous step.

Step 4: Generating Solutions invites the participants to list as many solutions as possible, without any pre-judgments, pre-judgments related to feasibility, for example.

Step 5: Evaluating Solutions invites participants to examine each solution against the criteria identified in Step 3, in order to recommend a solution or combination of solutions that will solve the problem.

3. The instructor created multiple discussion groups, using WebCT "Presentation Groups," for each course section. The "private topic" feature choice was selected for each discussion team. Although topics for discussion teams may be public or private, the instructor decided to utilize the private feature in order for group members to work independently of other groups. The private feature does not allow other members of class to read the discussion messages of other groups, although the instructor can monitor the group process of individual groups.

   Groups consisted of five to seven members, depending on the section enrollment. Student mid-term course averages established group membership. The objective was an equalization of the course grade point average for each group. A rank order of course averages identified students in order to make team assignments.

   For each Presentation Group, five discussion topics (including annotated directions) were posted on the discussion board, with each topic representing one of the five steps in the problem-solving process.

4. Student groups had two weeks for completion of the 5-step un-graded problem-solving phase and an additional week to complete the graded analysis of the discussion process assignment.

RESULTS:

1. Define the Problem ("What should be done to encourage student use of a course discussion board?")

   All student discussion groups (the face-to-face, web-enhanced sections, the video-based/hybrid, web-enhanced sections and the web-based, "online" section) chose the term "encourage" to define. Among other directions for Step 1, groups were required to identify and define one or more terms, terms that may be subject to multiple interpretations (definitions).

   All groups chose one of the two "definitions," while some groups used

both definitions. To "encourage" meant either "to provide some motivation" (to students), or "to provide/create a desire" (for or among students). At this early stage in the discussions of the various groups, it appeared that students were focused on some form of an "incentive" as necessary for encouragement. Observing the discussion messaging, I regularly noticed comments, related to encouragement, which mentioned, grades, "interesting," and "fun." There was no appreciable difference between student groups within a course section or between the different course delivery formats.

2. Analyze the Problem

At this step, the direction of group discussant attention is toward the problem's causes, effects and/or the degree of "hurt" or damage caused by the problem at this stage. Patterns began to become clear with this step. A grouping of causes becomes apparent and differences between student discussions groups representing different delivery formats began to appear.

"Technical or Access" causes identified by the various groups included: slow internet connections, competing home users, ADA-compliance, can't type or slow typist, fear of a computer virus and no home access to the internet or no internet-connected computer.

Not surprisingly, these were concerns of the face-to-face course groups, with only the "slow connection" being mentioned by only one of the video-based/hybrid or online groups.

"Training" causes identified by the groups included: no knowledge of discussion board-use, "don't like" computers, no previous coursework, instructions are not clear and do not use the WWW and/or internet-connected devices.

Again, these were issues raised by the face-to-face groups almost exclusively, with only two video-based/hybrid course groups mentioning "directions" as an issue.

"Course Incentive and/or Disincentive" causes identified by the groups included: lack of required assignments for discussion board use, no course incentives for use, boring assignments, no motivations for discussion-use, lack of interesting topics, lack of personal commitment to the class and a lack of motivation to participate in the class discussion.

Primarily, the video-based/hybrid course discussion groups identified the above-listed causes. Required assignments and course use incentives were shared by the online groups, while lack of personal commitment and motivation were shared by face-to-face groups.

"Personal Issue" causes identified by the groups included the following: too time-consuming, inconvenient, plenty of distractions in daily lives and other personal concerns.

There was no appreciable difference between the face-to-face, video-based/hybrid groups and the online groups. All student groups identified at least two of the four causes. However, some groups from the video-based/hybrid and the online sections mentioned all four of the causes. A possible explanation might be that "distance" students have obligations in greater numbers than students enrolled in traditional, face-to-face courses.

Interpersonal Communication causes identified by the student groups included: don't know members of the class, find it hard to relate to people outside a face-to-face meeting, non-social/not a "group" person, shyness, some people are "private," fear of rejection for differing views, fear of offending others, don't want to reveal a lack of knowledge by asking questions, do not want to be first and appear to be a "know-it-all," fear of rejection/not being accepted and fear of judgments by the group members based upon spelling or grammatical errors.

Regardless of course delivery format, each student discussion group identified virtually all of the above "Interpersonal Causes." This area of concerns appears to be the primary area of focus for instructors. As opposed to training, personal issues, course content and instructional approaches, the majority of the students in this short study shares the "classroom climate" concerns.

3. Determine Criteria

At this stage, after having examined possible causes of the problem under consideration, student groups worked to establish criteria that a workable solution should meet, if implemented. The same five "areas," as listed under Step 2, are used to organize student group comments for Step 3.

The number of individual student groups listing a single criterion is used to rank the criteria on a one-to-five scale. In order of most-to-least criteria mentioned are grouped within the following categories: (1) Interpersonal Communication, (2) Course Incentives, (3) Training, (4) Personal Issues and (5) Technical or Access criteria.

1. Interpersonal Communication criteria included: (a) the environment should be non-threatening by being a non-critical environment, (b) students should become familiar with each other early in the course and (c) there should be adequate time to become acquainted before discussion assignments begin.

2. Course Incentive criteria included: (a) assignments should be interesting and/or fun, (b) assignments should be for course credit or extra credit and (c) deadlines should be clearly stated and spread equally throughout the term.

3. Training criteria included: (a) directions for discussion use should clear and easy to complete and (b) training and/or directions for basic www or course navigation should clear and minimal

4. Personal Issue criteria included: (a) assignments should not be time-consuming and (b) assignments should allow for flexibility, i.e., timeframes for completion.

5. Technical or "Access" criteria included: Provisions should be made (or announced to students) concerning on-campus internet-accessible computer resources.

4. Generate Solutions

At this step in the problem-solving exercise, student groups identified possible solutions for the problem, apart from a consideration of the criteria previously listed. In order of most-to-least, solutions mentioned are ranked within the following categories: (1) Interpersonal Communication, (2) Course Incentives, (3) Training, (4) Personal Issues and (5) Technical or Access criteria. The numerical quantity of solutions generated by student groups, by category, mirrors the rank order of the numerical quantity of criteria generated by student groups in Step 3. The top twelve, most mentioned solutions are listed, by category:

1. Interpersonal Communication solutions included: (a) mandatory class groups, (b) assign students to groups on the first class day, (c) create a "buddy system," (d) provide for social interaction, apart from assignments and (e) provide for a "meet and greet" or introduction assignment.

2. Course Incentive solutions included: (a) regular, graded assignments, (b) provide for extra-credit assignments, (c) provide for weekly deadlines, (d) assignments should not be time-consuming online and (e) structured, "debatable" topics of interest to students or topics related to student lives should be included.

3. Training solutions included: (a) provide step-by-step directions for discussion board use and completion of assignments and (b) provide "user-friendly" simple directions.

Personal Issue solutions and Technical or "Access" solutions were mentioned by one or two student discussion groups only and were not considered.

5. Evaluate Solutions

At this final stage in the process, student groups were asked to choose a minimum of three, up to a maximum of five solutions for evaluation. While applying criteria previously agreed upon by the student group, one solution or a combination of solutions was to be selected for recommendation.

In order to encourage student use of a course discussion board, the student groups recommended the following:

1. Students should be assigned to a team early in the course. A "buddy system" of partners is recommended for implementation and team membership should be rotated during the class term.

2. Discussion assignments should be chosen that students will find "interesting."

3. Efforts should be made to insure that computer access is available for the most days and number of hours possible.

4. Provisions should be made to provide extra credit for discussion participation.

5. Discussion directions should be clear with training provided in a lab.

6. Participation in discussions will be a required assignment.

CONCLUSIONS:

Faculty members have an opportunity to (1) extend classroom discussions beyond the classroom, (2) an opportunity to replicate classroom face-to-face classroom discussion in distance courses, and (3) an opportunity to provide a "student-engaging" component in courses, by using a web- based discussion component.

This limited study suggests directions for maximizing student preparation, involvement, learning and satisfaction (with a course discussion component) by:

- Designing a, non-threatening, assignment for discussion board-use (an approach that anticipates simple directions or scheduled "hands on" training opportunities)
- Assignments should be designed to allow student completion within a "window" of time (hours and days) that the institutional facilities are available is "open."
- Course credit should be earned for required discussion assignments and

consideration should be given for "extra course credit," as an option.

- A concerted effort to design a discussi9n feature, which would engage students by linking discussi9hn topics with students personal lives should be a primary concern.
- Finally, faculty members should design an approach that creates a non-threatening "classroom" climate that "partners" students early in the term.

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The Berry Informational Technology (B.I.T.S.) Student Work Program: An Effective Environment for Collaborative Learning, Leadership, Technological Training, and Certification.

By: Amy Cornelius, Paul Macaluso
Track 1 - Effective Technology Based Learning Environments
Interest: General :: Lecture/Presentation :: Level: All

Abstract

The Berry Informational Technology (B.I.T.S.) program is an apprenticeship opportunity associated with student work. The program gives students the opportunity to seek technological training in areas such as building computer systems, trouble-shooting, networking, Web development, and user and technical support. In addition, students work collaboratively and with faculty and staff in problem-solving, attend workshops in management, supervision, and technology, as well as obtain certifications in various areas. Two measures of the program's success are its 90-95% student retention rate and that 24/25 returning students have passed the A+ certification exam.

Proceeding

Introduction

The Berry Information Technology Students (BITS) program is an apprenticeship opportunity associated with the Berry College student work program. It gives students the skills and professional experience that will make them valuable to

future employers while they receive an academic education. Our students are given the opportunity to make valuable contributions to the Berry community by assisting their peers as well as faculty and staff with their computing needs.

The BITS program offers professional training from A+ Certified technicians and hands-on experience building and troubleshooting computer systems. Students earn nationally recognized certifications in the information technology (IT) field. In addition, students can obtain professional references, in the form of letters of recommendation, which include information such as certifications they have earned and experience gained, for future job or intern possibilities.

The students must receive one IT certification per year in order to remain in the program. Berry College provides study materials such as books, videos, and training labs to aid the student's progress toward certifications and also pays for the student to take the certification exam. Over the course of four years, Berry College invests over thirty-five hundred dollars on each individual student.

Students are required to work a minimum of 8-10 hours weekly. Berry College will allow incoming freshman to work a maximum of 15 hours so they can adjust to college life. After the freshmen year, students are permitted to work up to 20 hours per week. Thus, the average student works 15-20 hours per week.

Upon admission to the BITS program, every Berry College student is classified as a student technician. Upon receiving the A+ Certification, the students become A+ Certified technicians. The students have a full school year to complete the A+ Certification or any other IT certifications. Once the students pass the A+ they become supervisors and get a higher rate of pay and have more responsibilities.

The acceptances of students for the program are on a yearly basis. This past year we accepted 25 new students consisting of freshman, transfers, and upper classmen. The interview process takes place during the summer student orientation and registration (SOAR) sessions. The students do not need to have previous computer knowledge to be accepted into the program. A student who poses strong characteristics such as the willingness to learn, a strong work ethic, and the ability to get along well with others are of primary importance.

Before the beginning of each school year, the accepted students participate in "boot camp," which is a two week training period. During boot camp, the students begin to learn about the IT field, including how to build a computer system. They receive Mike Meyers Passport A+ Certification material (videos and book) to use as a study guide to prepare them for the certification exam later in the year (Meyers, 2002). They also use LearnKey (www.learnkey.com) which is a web based program that has streaming video along with practice and post exams based on the streaming video. Students are required to pass all of the post exams before taking the A+ certification exam.

All students in the program are invited to participate in team building exercises with the "BOLD" program which stands for Berry Outdoor Leadership

Development. For many of the students this is their first time away from home. We use the BOLD program as an ice breaker for the students to introduce themselves to other students and for them to learn about others. The first task the students perform is to take the first letter of their first name and have to associate something from the IT field with it. An example is my name is Paul so I would pick "processor" so, for that day I would be known as "processor Paul." The students learn how to solve problems as a team. Many of the exercises cannot be done individually. The students learn how to interact with others and form new friendships in this short amount of time.

The BITS program is divided up into eight tracks. They consist of the Training Center, Macintosh Support, Networking, Web Development/Flash, Technical Training, and PC Support (with staff technicians), Technical Help Desk, and Rome City Schools which is a community outreach program/internship.

In the first semester, the track rotation is broken down into three week cycles. An incoming student will rotate into the six basic tracks of the BITS program. The reason for the rotational system is that many of the students do not have enough experience yet to give professional advice for the Technical Help Desk or to work in an internship position (e.g., Rome city school system). Students receive excessive hands on training to help them study for the A+ Certification.

Training Center

The Training Center is our main facility where we build all of the systems for Berry College. The BITS built 400 systems last year for Berry faculty and staff. All new students were able to build at least one new computer during the school year. Some students were able to build several computers during the latter part of the school year. We also handle all Berry network related work orders for students. When the work order is placed we have an A+ certified student technician and a student who is studying for their A+ certification go together to resolve the network issue. The most common problem is not being able to get on the internet. If the port is bad or the student cannot solve the network issues, the work order is passed over to the networking or telecommunications staff. At the Training Center we staff an average of 6-12 students on a daily basis. This year the new and returning BITS configured over 500 student computers for the network. They gained valuable experience installing network cards, installing drivers, and setting up the PCs for the Berry network. These projects were completed during Viking Venture, which is a three day time period at the beginning of the school year when primarily freshmen students arrive to Berry.

Macintosh

Students learn to troubleshoot and correct hardware and software problems and assist the Macintosh technician in providing support for the Macintosh computers on campus. These students achieve Macintosh related certifications beginning with the Apple Certified Technical Coordinator certification. The Mac track is responsible for user support and upgrades for the Mac community on campus.

The Macintosh students are also responsible for all student work orders for students with Macintosh Computers. We have two Mac labs on campus comprising of G4's and G3's. We presently have four full time students working in the Mac track.

Networking

Students in networking create user email and Novell accounts, change passwords as requested, provide support for Berry College Dial-In services, and assist the networking staff in maintaining the network. After earning the Network+ certification, the networking students often work toward the MCSE, MCP, CNA or Linux certifications.

Technical Training

Students in this area assist the technical trainer in preparing and teaching Microsoft Office products to faculty and staff. Students might even teach a class with the technical trainer's supervision. The students in this track also assist the technical trainer in showing new students how to use their Berry College email and how to log on to the Novell network. Those who choose this as their major area certify in current Microsoft Office Products and eventually work toward a certification in training.

Web Development/Flash

Web Development students create web pages and assist in updating the Berry College website. Students in this track often take online classes through the HTML Writer's Guild (www.w3.org) and certify in web related technologies including HTML, Cascading Style Sheets, Macromedia Dreamweaver, Macromedia Flash, and Adobe Photoshop. Some of these students also create tutorials for the campus using Macromedia Flash and Dreamweaver.

User Support

These students assist the PC technicians in troubleshooting and correcting hardware and software problems for PCs. After achieving their A+ certification, these student technicians earn certifications of their choice.

Technical Support Desk

Students begin to rotate through this area during their second year in the BITS program. The Technical Support Desk is the primary point of communication in User Support and requires extensive knowledge. Second year BITS will train with experienced students during their rotation through the technical support desk and may choose this area as their major area of interest if the Technical Support Desk Coordinator agrees. Our student workers work the help desk from 7:30 am until 6:00 pm. These students choose their certifications in a variety of areas. This is

the highest level available in the student work program.

Rome City Schools

Students in this track work in the Rome City Schools with the technical support staff in those schools. They provide a variety of support from network support to hardware or software desktop support and assist with creating and maintaining web pages. The students in this track are allowed to work toward the technical certification of their choice after completing the A+ certification.

Conclusion

Each spring, the staff plans a banquet to show their appreciation of the students and to recognize the graduating seniors. Certificated are awarded to the seniors and those who completed the A+ certification are given special recognition. Throughout the year, the students are also awarded financial bonuses based on the certifications they achieve and the completion dates for those certifications. Each student must complete a technical certification prior to spring break to be eligible for a bonus.

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2003 Conference Proceedings

The Challenge of Teaching Educational Technology Courses Online

By: Marge Maxwell
Track 1 - Effective Technology Based Learning Environments
Interest: General :: Lecture/Presentation :: Level: All

Abstract

Not only is teaching technology ONLINE to teachers (or teacher candidates) who don't know much about technology a challenge, taking it a step farther, i.e., incorporating technology into teaching and learning is truly a unique challenge. Educational technology courses at Western Kentucky University incorporate common elements such as orientation activity, discussion boards, online exams, and student projects which include webpages, slideshows, databases, spreadsheets, clay animation, and newsletters. However, video computer demonstrations, graduate research slideshows, a CD library of Authentic Learning Units and an Information Portal to Internet Resources are unique elements to our program.

Proceeding

Not only is teaching technology ONLINE to teachers (or teacher candidates) who don't know much about technology a challenge, taking it a step further, i.e., incorporating technology into teaching and learning is truly a unique challenge. Educational technology courses at Western Kentucky University (WKU) incorporate several elements to enhance personal interactive learning in a cyber-class. Some of these vital elements include an orientation activity, use of discussion boards, online exams, open-ended student projects, weekly communication and feedback, video demonstrations, and more.

I have taught educational technology courses at WKU for the last nine semesters. All of our courses are now online. This paper presents some time-saving ideas and survival tips for teaching online.

Planning and Organization

Course CD. Prior planning and organization for an online educational technology course is probably the most critical element for success. Although WKU uses the online course management software, BlackBoard, a course CD is mailed to all students at the beginning of the semester. This format is used mainly because videos do not stream very well over our network. This CD contains a two main folders: Course Information (syllabus, assignments, Orientation Activity, Student Online Learning Guide, and APA Style helper) and Modules (PowerPoints, demonstration videos, tutorials, demonstration files, files to use in projects, sample projects, etc.) The syllabus clearly defines all course expectations, guidelines, and schedule. All assignments are in a separate file along with a scoring rubric for each project or activity.

In the Microcomputers in Education class, I divided the course into five modules. (See Table 1 for list of module contents.) Having previewed and used several educational technology texts, I found some elements of different texts that I like but not one book that covered all the information I wanted to include. Therefore, I create my own "textbook" PowerPoints that contain information, research, and links to Internet websites or other files on the CD. (See a sample page in Figure 1.)

Online testing. An online test evaluating student learning from each "textbook" PowerPoint is given for each module. A question pool of 50-70 questions (multiple choice, true/false, fill-in-the-blank, or short essay) has been created for each module. Tests are constructed to randomly select any 25 questions from the pool. Students are allowed to take the test as many times as they like during the week the test is posted. The purpose is to increase student interaction with the course information. Each time a student takes the test, s/he is presented different questions. It is extremely important to backup the test grades daily while a test is posted for the class. It is possible for the course management system to lose the grades.

Demonstration videos. The in-class software demonstration is the primary missing element in online educational technology classes. Using the software Camtasia, demonstration videos have been created and saved in self-extracting files. Camtasia allows the user to create and narrate desktop videos. Demonstrations are created as software tutorials, directions for assignment, numerous How To's, and more. All videos are now included on the course CD mailed to students at the beginning of the semester. The accompanying demonstration files are also included. For example, if a video demonstrated a certain database and question worksheet, these files are also included for students to practice with.

Student Online Learning Guide. A Student Online Learning Guide has been developed which outlines required resources, communication with instructor, successful online learning and computer tips, course participation requirements, what to do in case of emergencies, and characteristics and needs of adult online learners. Adult online learners take responsibility for their own learning. It is important to specify how you want students to communicate with the instructor, how students should submit assignments, and tips concerning online learning and technology usage.

Student projects. An Orientation Activity is the first course requirement. Students must log on to BlackBoard, locate the course information files, complete, sign, and mail the Orientation Activity to the instructor. The Orientation Activity is essentially a contract that requires students to check all boxes indicating they have printed and read all course information files (syllabus, assignments, online learning guide), they have all required software, they have edited their Student Homepage on BlackBoard, and they have sent the instructor an orientation email. The student signs a statement that all work will theirs alone and they will not use assignments from other courses for this course.

Several unique assignments are offered in WKU's educational technology courses. In the Top Ten assignment students research within the Internet and select any ten websites (name, URL, grade level, category, description) useful to educators. Students enter these sites into an online database, thereby creating a large Information Portal available to WKU students. This database now contains over 2000 websites.

All education courses at WKU require students to complete a Critical Performance Indicator, or project that can be included in a student's portfolio. The educational technology courses require an Authentic Thematic Technology Integration Unit in which students create lesson plans, a product (database, spreadsheet, slideshow, or some multimedia project), provide Internet resources, and worksheets. All units are compiled into a CD Library that is distributed to all students (with student permission) at the end of the semester.

All graduate students complete a research project in which a PowerPoint is created and presented either on campus or by video. The assignment is like writing a research paper but the body of the paper is placed in the notes of the slides while the slides contain a brief outline of the notes.

Discussion boards. Discussion boards are splendid interactive tools for an online course. Always include a Question and Answer (Q&A)) board where students can post questions about the course, problems with technology, location of resources, etc. Students help each other saving instructor time. However, there are two important points here. First, lay ground rules. Students may not make derogatory comments about

other students, the instructor, the course, or publicly air grievances. These types of comments should be addressed first to the person they concern. It if cannot be resolved, ask the instructor to assist. If it is about the instructor or course, I am approachable and always willing to listen. Second, the instructor needs to monitor the board to enforce these ground rules and to answer some questions. Publicly "pat students on the back" who correctly answer other students' questions.

Discussion boards can also be used as course content. A prompt can be posted to which students reply. I have graduate students research some topic or prompt and post their two to three page response with APA references. Another type of prompt may be to have students locate any lesson plan on the Internet that incorporates technology and post it on the discussion board. Each student must critique at least two of these lesson plans.

Course management

Student feedback. Course management during the semester can be time consuming. Maintaining a balance between adequate communication and feedback to online students, other university responsibilities, and your personal life is a challenge. Only organization and ongoing management can ensure success in all three areas. The greatest general complaint of online students is lack of or little communication and feedback from the instructor. I have created a Student Feedback Form (MS Word file, see sample in Figure 2) for each student. Throughout the semester I add grades and feedback comments and email it as an attached file to students. It has saved time and student complaints in the long run. It may take a little more time to add each student's grade to the form and email it. However, that takes less time than the hundreds of emails I used to get from students asking what their grade is, why they made a certain grade, or have they turned in a certain assignment.

Folder organization. Organization of folders is a key factor in saving time. Create an hierarchy of subfolders for each course. (See Figure 3 for a sample hierarchy). The highest level folder is a semester folder; next a folder for each course; a subfolder within each course for Student Feedback Forms, one for each assignment (each with its Graded subfolder), a course information folder, etc. I usually rename student projects with their last name and a word or two describing the project. For example: Smith.PrsidentsDB.doc. Don't forget to backup at least weekly.

All written assignments must be completed in Microsoft Word and sent as an email attachment. I save the assignment file in the correct assignment subfolder, open it, turn on the Track Changes feature, and make comments throughout the paper in red. I resave the file in a Graded Folder and send it to the student along with the Student Feedback Form.

Grades. I keep grades on an Excel spreadsheet rather than BlackBoard for several reasons. I can keep all the grades for all classes in one workbook, I have downloaded some student information from TopNet (WKU's local student database and registration tool) into the spreadsheet (including their email address), I can add comments to cells, and more. Each student's name is linked to their Student Feedback Form so that all I have to do is click their name to open the form and add grade and comments. Each student's email address is in the second column so that I just click on their address to send the feedback form and a graded assignment file. Type the email subject on the first one, copy it, and paste it for all the other email subjects.

Emails. Email maintenance is another significant facet of maintaining an online course. In teaching four online educational technology courses, I receive 20-80 student emails daily in addition to all the other university emails. Use your email software to filter emails by subject. For example, I require students to use a standard email subject format: LME448, Last Name, Topic. Outlook looks for the course number in the subject and places the email in the correct course folder. Before I even open the email, I know which student it is from and what the topic is. Emails that do not have the standard email subject are returned to the student requesting it be resubmitted with the correct subject. They are told at the beginning of the course this will happen. It only takes once for the student's email to be returned for the lesson to be learned.

NEVER delete student emails. They are evidence of communication or lack of communication. On

numerous occasions student have claimed that an assignment was sent. I can easily sort the email by sender to see all emails sent by the student. Set your software to send an automatic return acknowledgement for all emails when you open them. This saves on hundreds of student emails asking if you received an assignment. I even ask them not to email asking if I received it. Please wait for the return acknowledgement. Set your software to send yourself a copy of your replies to emails. Replies are saved in the same folder that is currently open. Encourage students to save all their emails and instructor replies in case one needs to be resubmitted.

When sending emails to students and you want to make similar comments, you can create macros of common statements to lessen the number of keystrokes. Create distribution lists for each class in case your course management system is down or you want to send an attached file to all students. Students appreciate personal comments. They need to know you care. There are many ways to personalize your communication: sympathize when a loved one is ill or dies or tell them you are thinking of them when they are sick. Send an ecard to all students once or twice a semester for Valentine's Day, Spring break, Christmas, etc. Student response is tremendous. They love it! Last but not least, when the semester is over, archive the email folder. A student may challenge a grade or have an incomplete. You may need evidence of communication.

Communication. Maintenance of the online course management system (Blackboard at WKU) is important. It is the one central area where students and the instructor "meet." Post at least two to three regular announcements per week. Let them know when you have graded and sent emails, when you will be out of town, some accomplishment of yours, your family, or another student, add a quote once in a while, reminders (especially of standard email subjects or due dates), changes in your program, available scholarships, explanation of some aspect of the course which several students are misunderstanding, etc. Be sure to make all announcements permanent so you and your students can review them any time during the semester.

Post instructor information before the semester begins so students can get to know you. As part of the Orientation Activity, I require students to post information to their Student Homepage within BlackBoard so we can get to know each other.

Color coding. Color-coding helps identify your courses. Blackboard allows the instructor to select colors for the course banner, buttons and headings. I use all blue for one course, all black for another course, and all red for the other course. I also place all printed course information, grade sheets, etc. in corresponding colored canvas portfolios. That makes it easy to pick up the correct folder for a class. If you are online working on a course and you are distracted by a phone call or visitor, you know exactly which class you are logged into because of the color.

Time savers and survival tips. Two other course management system features include course statistics and archiving a course. After the semester view and print all course statistics to use in reporting your yearly activities. I also view it about once a month to see which students are accessing the course most or who is not signing on at all. Archive the course when all is finished. You never know when you need the evidence. I have had to retrieve an archive once.

There are other time savers or survival tips such as learning keyboard commands. All software has several ways to invoke commands. For example, you can move your mouse to File, click it, move the mouse to Save, and click it. Another way to save is to click the disk icon in the format bar. However, the fastest way is to press CTRL-S on your keyboard. Invoking commands from the keyboard saves considerable time.

Other survival techniques include taking several stretch breaks from your computer, sit in an ergonomically designed chair, pay attention to lighting in your office, use an ergonomically designed keyboard and mouse. Don't work after a certain hour in the evening during the week and don't work on weekends and holidays and tell the class this at the beginning of the class. Of course, there may be exceptions (like when a test is posted) but don't make a habit of it. Students begin to expect to receive immediate responses from you if you don't make this clear. They will respect your privacy and your honesty. Some students have not even considered that an instructor answering email is actually work.

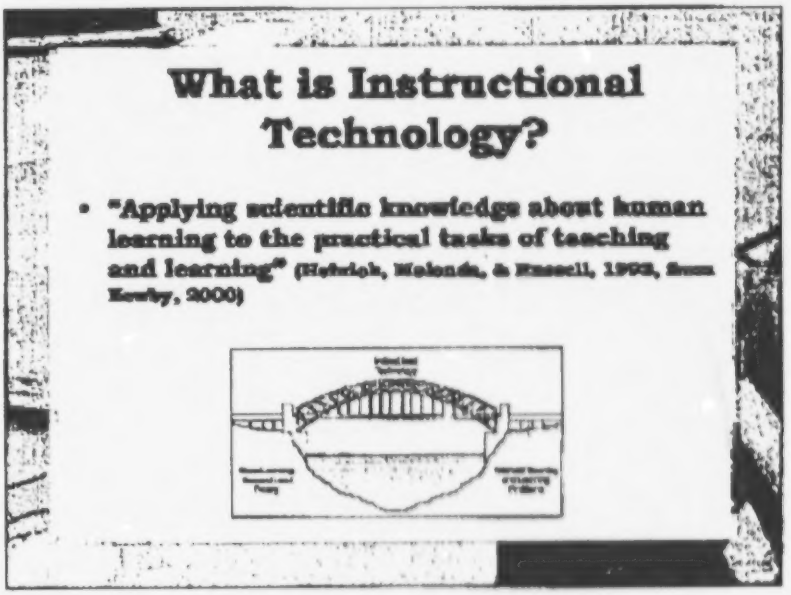
Conclusions

In conclusion there are key issues in teaching online educational technology courses that are important to students and instructors; however, they are not exactly the same. Students are more concerned with frequent communication with the instructor and feedback on assignments and grades. Clear expectations and communication at the beginning of the semester is critical. Students appreciate and even make comments thanking me for the feedback.

Instructors are concerned with the technical aspects and course maintenance. Organization of a course CD, emails, feedback, and BlackBoard have been critical to me in offering successful online educational technology courses. Students even make comments on their course evaluations about organization, instructor responses, and feedback.

Figure 1

Sample PowerPoint "Textbook" Page


What is Instructional Technology?
• "Applying scientific knowledge about human learning to the practical tasks of teaching and learning" (Heinich, Molenda, & Russell, 1993, from Newby, 2000)

What Exactly Is Instructional Technology?

Just as there is space technology, engineering technology, and medical technology that bridge basic research and practical problem areas in these specializations, there is also instructional technology. Generalizing from the previous definition, instructional technology has been defined as "applying scientific knowledge about human learning to the practical tasks of teaching and learning" (Heinich, Molenda, & Russell, 1993, p. 16). Specifically, instructional technology is the bridge between those who conduct research on human learning (e.g., psychologists, linguists) and those who are teaching and learning (see figure in slide 5). That is, instructional technology translates and applies basic research on human learning to produce instructional design principles and processes as well as hardware products that teachers and students can use to increase learning effectiveness.

In today's language, when most people use the word *technology*, they are referring to so-called "high-tech" equipment or hardware, such as computers, CD and DVD players, cellular telephones, even satellites. And indeed, these tangible items are part of our definition of instructional technology. As the figure shows, instructional technology is a means of connecting the teacher, the instructional experience, and learners in ways that enhance learning. The use of "high-tech" hardware is one way to make these connections; another is to use instructional media such as textbooks, overhead projectors and transparencies, and audiotapes. A third way is through the use of less tangible tools, such as instructional design principles and instructional strategies, methods, and techniques. These less tangible instructional technologies are sometimes referred to as process technologies.

(Newby, et.al., 2000, p.10)

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Figure 2

Student Feedback Form

LME 448/G Student Feedback for Course Assignments
Spring 2003

Student's Name *Jane Doe*

This file will be sent to you with comments in red after each assignment is graded. Refer to scoring rubric for each assignment for more specifics. Review the following EXAMPLE:

Points Earned	Possible Points	Assignment	Assignment Component(s)	Comments	Points Summary
87	100	**Module 1 Project: PowerPoint**	Content	**3.7 - 13 slides, content good**	10.4 / 3=3.45 * 25 = 86.25
			References	**4 - 4 references, correct APA style**	
			Appearance	**2.7 - only 5 clip art, too much text per slide**	

Explanation of Example: Each component receives a score of between 1and 4 (see scoring rubrics for each assignment). These scores are totaled, then averaged, then multiplied by 25 (since the highest score is 4 and the possible points for this assignment are 100, hence, 4 * 25 = 100).

Points Earned	Possible Points	Assignment	Assignment Component(s)	Comments	Points Summary
	25	**Orientation Activity**	Picture on Student Homepage (3 points)		
			Email with all components to instructor (10 points)		
			Completed signed Orientation Activity (12 points)		
	50	**Participation**	Participation in Discussion boards, Completing and turning in assignments on time, Maintaining contact with the instructor, Maintaining positive professional attitude		
	400	**Module Tests**	Feedback and grades are available on CourseInfo.		
	100	**Module 1 Project: PowerPoint**	Content		
			References		
			Appearance		
	100	**Module 2 Project: Software Evaluation**			
	100	**Module 3 Project: Database Question Worksheet**			
	100	**Module 3 Project: Spreadsheet Question Worksheet**			
	100	**Module 4 Project: Top Ten Websites**			
	200	**Module 5 Project: Technology Integration Unit**	Lesson Plan		
			Product		
			Internet/Curriculum Integration		
			Supporting Activities		
	100	**Graduate Research PowerPoint Project**	Content		
			References		
			Appearance		
			Presentation		

Communication (emails/phone calls):

Table 1

LME 448/G Module Outline

Module	Text Information	Assignments	Course CD Contents

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1. Educational technology	PowerPoint "textbook"	Online test Project: 10-slide PowerPoint on any educational technology topic	PowerPoint Tutorial Information Demonstration Video Sample Student Files
2. Using Instructional Software	PowerPoint "textbook"	Online test Project: three instructional software evaluations	PowerPoint Software Evaluation Form
3. Using Productivity Software and other Software Tools in Teaching and Learning	PowerPoint "textbook"	Online test Project: Create database and spreadsheet question worksheets	PowerPoint Tutorial Information Demonstration Videos Demonstration database and spreadsheet files Databases and spreadsheets for student projects
4. Integrating the Internet into Teaching and Learning	PowerPoint "textbook"	Online test Project: locating Internet websites useful to educators	PowerPoint Top Ten Database
5. Integrating Technology into the Curriculum	Discussion Board: Technology Uses in Different Subject Areas	Project: Authentic Thematic Technology Integration Unit	Video explaining project Sample Student Projects

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2003 Conference Proceedings

The Use of Online Courseware in Foreign Country Instruction and Its Implication for Classroom Pedagogy

By: Jun Da
Track 1 - Effective Technology Based Learning Environments
Interest: General :: Lecture/Presentation :: Level: All

Abstract

In foreign language instruction, classroom activities are typically organized to facilitate the acquisition of both receptive and productive skills. However, with the increasing use of interactive online learning materials delivered through course management systems, we need to adapt our instructional pedagogy accordingly. In this presentation, we analyze learners' online learning behavior based on statistics collected from an ESL learning system and demonstrate the need and feasibility of focusing our classroom instruction more on productive skills such as speaking that cannot be handled satisfactorily by current technologies.

Proceeding

1. Introduction

In a typical college foreign language classroom, learning activities are often organized to facilitate learner's development of both receptive (reading and listening) and productive skills (speaking and writing). Receptive skill training is often conducted with the class as a whole or in groups, where an instructor assigns reading (as well other) materials for his/her students and checks their comprehension by providing relevant feedback. In comparison, activities involving the development of productive skills often take the form of one-on-one interaction. In the case of writing, for example, an instructor needs to spend considerable time reading and evaluating individual learner's writing samples and provide feedback. In the case of speaking practices, again, learners often need one-on-one interaction with the instructor. Because of the requirement of individualized attention in the development of those productive skills, it is not unusual for us to find that less classroom time is spent on activities related to those skills, even though they are equally important in the development of a learner's overall language competence.

One possible solution to this time constraint problem is to seek the help of online language instructional courseware, especially those interactive learning materials delivered through course management systems where students' learning process can be evaluated and tracked. In this presentation, we provide a case study of New Horizon College English Online (henceforth NHCE, http://www.nhce.edu.cn), an

online EFL (English as a Foreign Language) course management and learning system specially developed for non-English major postsecondary students in China. The NHCE system is intended for classroom-based instruction where students are engaged primarily through self study and supplemented by instructor-led learning. In this presentation, we will first describe its system design and functions for language learning and instruction. We will then provide a brief analysis of user online behavior based on web statistics collected during the first four months of its operation. Based on the statistics, we suggest that by incorporating online interactive learning materials into the overall language instruction curriculum, it is feasible for instructors to reduce classroom time on activities that develop those receptive skills which can be handled adequately by the online system. With reduced requirement on classroom time on receptive skills development, an instructor, in turn, can shift the focus of classroom instruction on productive skills that cannot be handled adequately with current computer technology.

2. The NHCE online learning system

2.1 System design

New Horizon College English Online consists of both a course management system and online EFL learning objects. Similar to other popular course manage systems (e.g., WebCT and Blackboard, etc.), it comes with both administrative and instructional tools. Its administrative tools include those for user account management, course setup and configuration, and communication. Instructional tools include class membership management, file manager, and asynchronous communication tools such as bulletin board and group email that can be used by instructors to organize online learning activities.

However, unlike most course management systems (such as WebCT and Blackboard) where instructors have to provide course learning content by themselves, NHCE comes with built-in modules of EFL learning materials. That is, both multimedia and interactive learning contents are provided for its users. When a student practices with online exercises such as multiple-choice questions and short-answer questions, his/her responses can be evaluated instantly and feedback is provided. At the same time, user data is stored in the back-end server database so that instructors can retrieve and analyze them at a later time.

2.2 Pedagogical design

Online learning and instruction at NHCE is organized in terms of 'courses' and 'classes' at each individual institution. A class is simply an organizing unit that consists of instructors and students. The relationship among the online learning content, course and class is shown as follows (Figure 1).

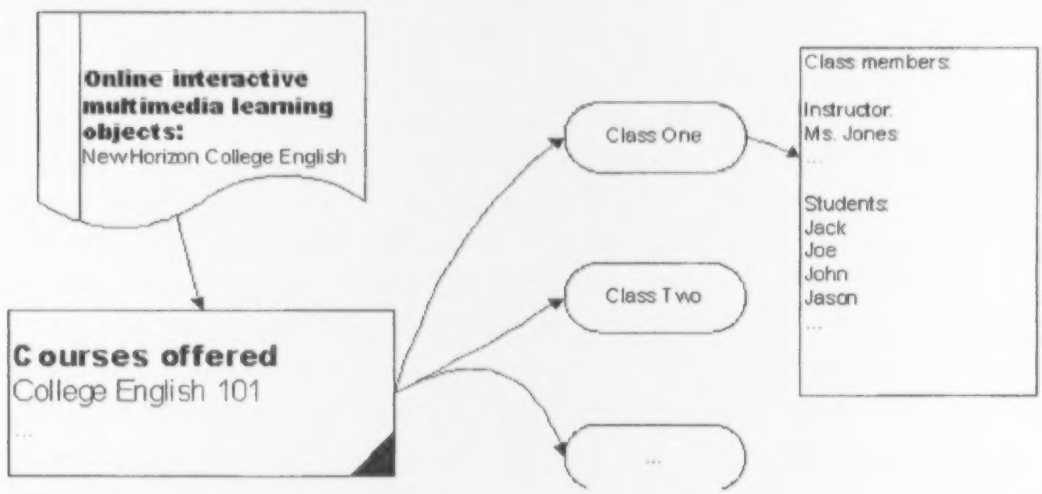

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Figure 1 Organization of online instruction at NHCE

Online learning at NHCE is designed to be learner-centered, i.e., students control when, what and how to learn. At the same time, an instructor provides assistance and guidance when necessary. The following diagram (Figure 2) demonstrates the various learning activities a student can engage in at the NHCE website.

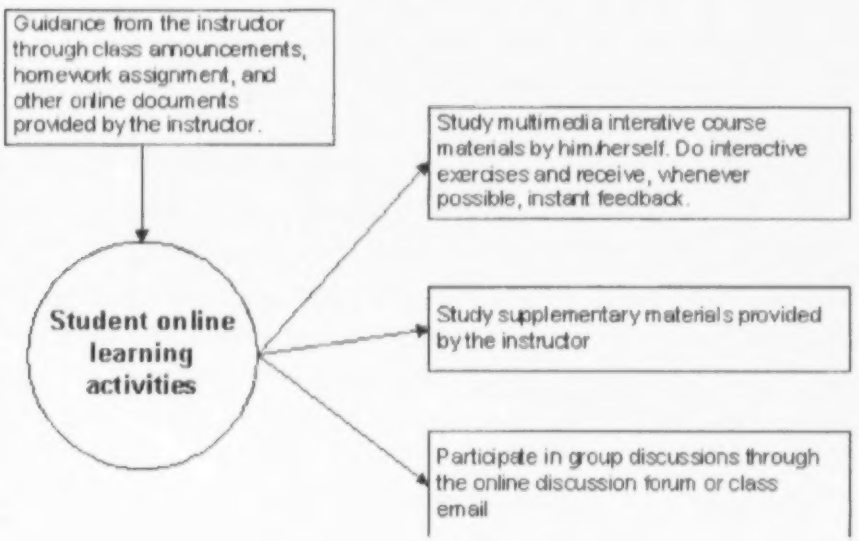
Guidance from the instructor through class announcements, homework assignment, and other online documents provided by the instructor.
Student online learning activities
Study multimedia interative course materials by him/herself. Do interactive exercises and receive, whenever possible, instant feedback.
Study supplementary materials provided by the instructor
Participate in group discussions through the online discussion forum or class email

Figure 2 Student online learning activities at NHCE

Note that at NHCE students' interaction with the system can be either one-way or two-way. They can click on a link and view the relevant content (such as reading a passage). They can also engage in interactive learning activities such as participating in group discussions and doing online interactive exercises.

To facilitate online instruction, NHCE provides several teaching tools for instructors that include document editor, file manager, communication tools, and student learning recording manager, etc. Figure 3 lists possible course management and instructional activities that an instructor can perform at NHCE:

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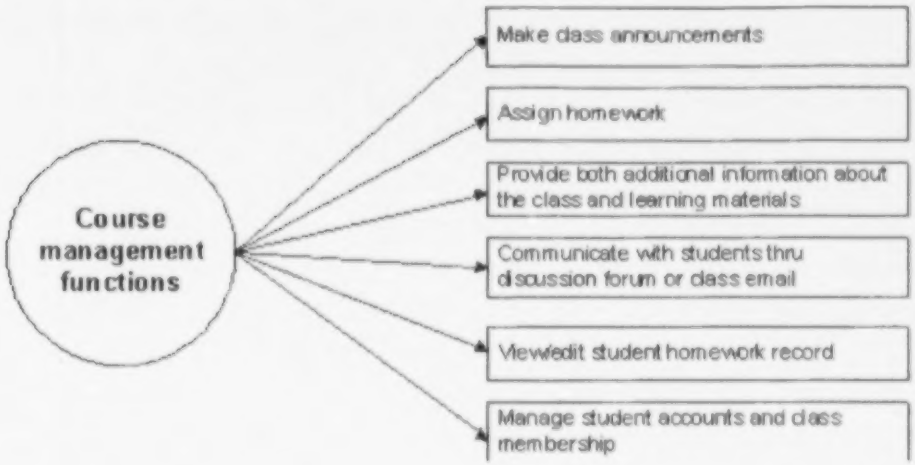
Course management functions
Make class announcements
Assign homework
Provide both additional information about the class and learning materials
Communicate with students thru discussion forum or class email
View/edit student homework record
Manage student accounts and class membership

Figure 3 Instructional activities performed by course instructors

2.3 EFL learning objects

One thing that sets NHCE apart from other course management systems (such as WebCT and Blackboard, etc.) is its built-in EFL learning objects, which include both multimedia materials and interactive exercises that provide training in reading and listening skills, vocabulary and grammar. In particular, server-side scripting technology has been used in the design of online interactive exercises so that both instant and delayed feedback can be provided. Further, when a student submits online homework, for example, his/her learning record is stored in the backend database so that instructors can track each student's learning process.

However, because of the limitations of current technology, the online course content is mostly related to receptive skills involving reading and listening where instant feedback can be provided. Little content and functions are provided for practicing speaking skills, though writing exercises are provided with no instant feedback. In the latter case, students' writing samples are collected and made available to teachers for later evaluation. Feedback in this aspect is delayed and still involves individualized attention.

3. User online behavior

3.1 Data collection and analysis

NHCE has been made available to about 100 universities and colleges in China since the summer of 2002. User statistics in Apache web server log format has been collected between September 2002 (when the learning system was first made available to users across the country) and December 2002, whose file size is about 2GB. Our following analysis is based on statistics generated by the free AWStats (Advanced Web Statistics, http://awstats.sourceforge.net) web log analyzer, which is distributed under the GNU General Public License (http://www.gnu.org/copyleft/gpl.html).

3.2 Results

3.2.1 Visits, page views and hits

Table 1 lists the number of visits, page views and hits on a monthly basis. Explanation of the terminology can be found at http://awstats.sourceforge.net/docs/awstats_glossary.html. Based on data in the table,

we can calculate that a visitor on average checks out 43 pages with 107 hits per visit.

Table 1 Number of visits, page views and hits

Month	No. of visits	Total pages views	Total hits
Sep-02	7988	232294	644077
Oct-02	24565	829020	2145063
Nov-02	27394	1412908	3433689
Dec-02	25529	1224183	2936155
Total	85476	3698405	9158984

3.2.2. Visit durations

Table 2 lists visit durations to the website by its users on a monthly basis. Note that in the table visits that last less than 2 minutes are not listed, since most likely they originated from search engine robots or spiders.

Table 2 Visit duration (Number of visits)

Month	2mn-5mn	5mn-15mn	15mn-30mn	30mn-1h	1h+	Average duration (minutes)
Sep-02	1478	1356	688	707	545	12.7
Oct-02	4347	4495	2311	2285	1888	13.6
Nov-02	4438	5521	3114	3091	3094	17.2
Dec-02	3973	5129	2758	2759	3093	17.3

If we represent those visit durations in terms of percentages (Figure 4), we find that about 50% of users spend more than 15 minutes per visit. Further, the average duration is more than 17 minutes in the later half of the four months period.

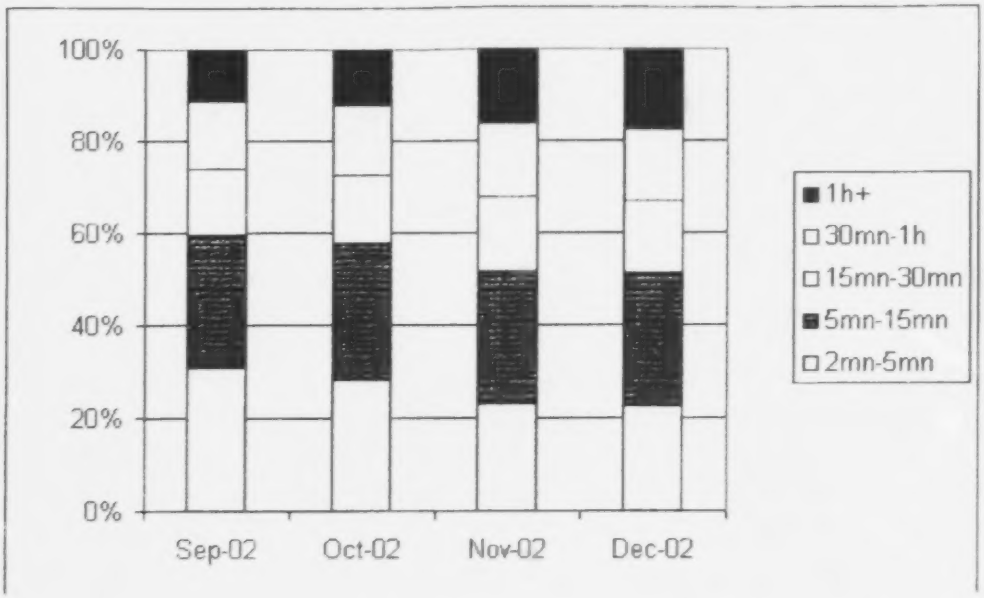

Figure 4 Visit duration represented as percentages

3.2.3 Most frequently viewed pages

Table 3 lists unique pages viewed (as measured in terms of unique URLs excluding query strings) on a monthly basis.

Table 3 Unique pages viewed

Month	Unique page views
Sep-02	1426
Oct-02	2536
Nov-02	3575
Dec-02	3757

A closer examination of all the pages viewed indicates that only three pages received more than 10,000 views per month, which include the login page, the interactive exercise page, and the table of the content page for the online course book (book homepage). Table 4 lists the total number of views of those three pages on a monthly basis.

Table 4 Top three most viewed pages

month	The login page	The interactive exercise page	The book homepage
Sep-02	24368	26867	5308
Oct-02	85398	63436	23560
Nov-02	140882	87912	47988
Dec-02	115141	109571	43655

As can be seen from the table, when users login to the website, they also visit the interactive exercise page on a very frequent basis. For each viewing of the online book's table of content page, they check out the interactive exercise page twice as often. Such a pattern can be clearly seen in Figure 5 (which is based on data from Table 4).

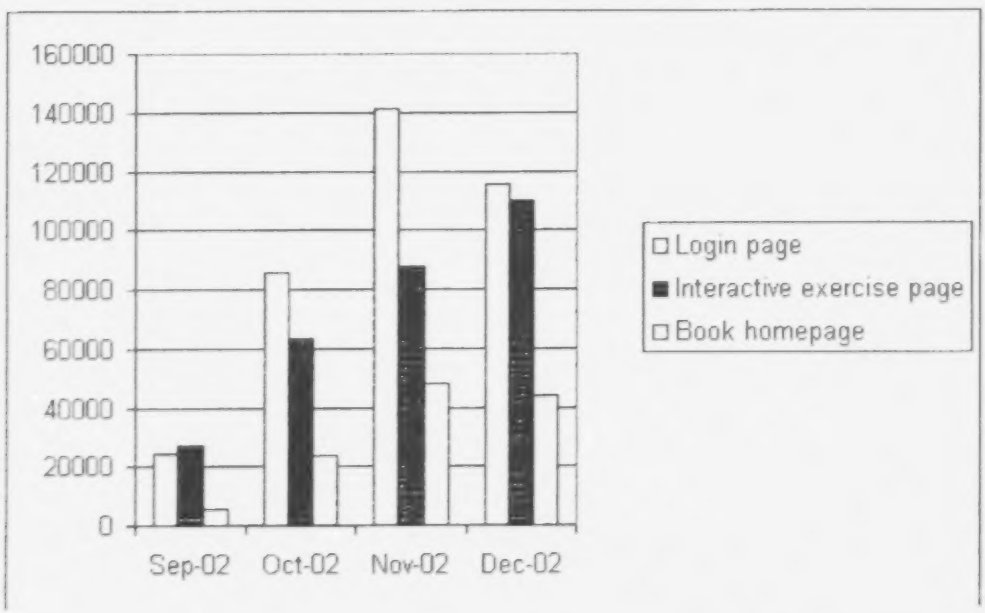

Figure 5 Page views of the login page, the interactive exercise page and the book homepage

4. Discussions and concluding remarks

From the web statistics presented in the above section, we find that NHCE users do make use of the learning system. On average, they check out 43 pages and spend 17 minutes online per visit. When they login to the system, they will also frequently check out the interactive exercise page. This is roughly twice as often as they navigate to the table of content page of the online course book.

Such a usage pattern is not out of our expectation. An examination of the online ESL learning system itself suggests that the majority of its interactive learning materials are on the acquisition of receptive skills such as reading and listening. After all, with current scripting technology, it is easier to develop online interactive materials that focus on receptive skills (such as reading) where instant feedback can be provided. For example, written multiple choice questions or cloze exercises are often used to check learner's reading comprehension. Students' responses to those types of questions can be processed readily using current server-side scripting technology. In contrast, speech processing technologies are not yet mature enough to handle interactions between the learner and the computer via the audio/video channels.

Given the availability of interactive learning materials such as those provided by NHCE and accompanying online learner behavior, we suggest that classroom-based foreign language instruction can make full use of the advantages that current technology provides. For example, by using NHCE an instructor can reduce classroom time on reading and listening training and pay more attention on speaking and writing skills. Such re-focusing of classroom instruction on productive skills is feasible because: 1) With the help of the interactive learning system, students can learn on their own to acquire those receptive skills. Spending less time on receptive skills in classroom will not adversely affect students' acquisition of those skills; and 2) Students' online learning process can be constantly monitored by the instructor via the tracking functions of the online learning system.

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Eighth Annual
Mid-South Instructional Technology Conference
Teaching, Learning, & Technology
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March 30-April 1, 2003

2003 Conference Proceedings

Using the Internet as an Instructional Tool: ESL Distance Learning

By: Ruth Reynard
Track 1 - Effective Technology Based Learning Environments
Interest: General :: Lecture/Presentation :: Level: Beginner

Abstract

This presentation will highlight the possibilities that Internet technology presents for the creation of an online, dynamic learning environment for language learners. Rather than simply use the Internet to deliver course content, the presenter will demonstrate the learning process can benefit from the interactive, self-directed and self-authoring potential of the technology.

Proceeding

Introduction

The Internet, because of its flexibility and accessibility, is fast becoming the technology of choice for distance education in North America. It is the most cost-effective mode of distance delivery on this continent and, I would also suggest, the Internet has the potential of being the most effective way to teach and learn at a distance in a computer-supported environment. In an editorial in the *American Journal of Distance Education* (Vol.14 No.1, 2000; M.G. Moore), statistics reported by the US Department of Education, National Center for Education Statistics [NCES] 1999, suggested that nearly 80% of public (US) post-secondary four-year educational institutions and more than 60% of public two-year educational institutions offered distance education courses in 1998-1999. According to the author, the most frequently used delivery technologies were asynchronous Internet instruction (58%), two-way interactive video (54%), and

one-way prerecorded video (47%). Institutions, however, reported greater interest in Internet technologies and two-way interactive video over other technologies in the future. The rapid movement towards the Internet as a delivery technology is influencing how distance education courses are being structured, how instructors are teaching, and how students are learning.

Growing numbers of distance education courses are designed by professors to suit licensed software delivery platforms, which are based on principles of instructional design. According to Duffy and Jonassen (1992), "Instructional design, and indeed instruction in general in the United States, emerged from an objectivist tradition" (Duffy & Jonassen, 1992, p. 2). In this objectivist approach, it is important to identify what the learner needs to know, how the learner learns, and to engage the learner in the learning process in order to master the knowledge pre-identified as correct (Duffy & Jonassen, 1992). The objectivist approach spans behaviorist theory to cognitive psychology. Throughout this theoretical span, the existence and acquisition of information are independent of each other (Duffy & Jonassen, 1992). Constructivism, on the other hand, promotes the notion that the individual's experience of the real world is crucial to understanding. Experience, then, must be examined in the pursuit of understanding and as such, constructivist approaches tend towards authentic experiential learning. Instructional plans become plans for action towards process. Outcomes are not preset but evolve through the learning process (Duffy & Jonassen, 1992).

While course delivery platforms provide an efficient means to organize and deliver content and communicate with students, without clear understanding of pedagogy, courses can remain static and two-dimensional. Content is compartmentalized and sequenced according to course structure and time lines rather than learning outcomes (Mioduser, Nachmias, & Lahav, 2000). The main reason for this lack of implementation of effective pedagogical approaches is that most distance learning sites maximize the capability of the Internet to distribute content and network groups of learners with little attention to the potential of Internet technology to function as an instructional "scaffold" for the actual learning experience. Scaffolding in this context refers to the possibility of hypertext (active embedded text links) technology to support learning by providing the learner with the ability to change course direction and outcome and to embed and integrate information and additional self-directed resources through search and study tools.

Language Learning

This preset course delivery approach is particularly problematic for language learning. Pre-set course delivery platforms do not usually support dynamic processes of teaching and learning that are required to teach language effectively. Delivery platforms (as the descriptor suggests) are designed to deliver courses efficiently and cost effectively with little bandwidth fluctuations. Language, however, is a dynamic process and involves active student participation in order to provide individual learners the opportunity to meet learning goals and to use language authentically (Ellis, 1996; Krashen, 1982;

Skehan, 1989; Stern, 1983). While language provides the form for content, language itself is not a content area and should, therefore, not become broken down into elements and isolated language sequences in order to suit course structures and assessment levels (Cummins, 2000). Alternatively, content-based language courses often provide only de-contextualized language supports that have diminished relevance for learners. Although content can be understood, processed and applied through language, language systems can only be effectively acquired and applied by learners within meaningful contexts of learning (Krashen, 1985).

Therefore, rather than organizing or structuring language elements, language learning requires a process-based orientation (Breen, 2000). The individual learner should be able to negotiate a learning path that reflects personal learning goals and needs. Barnett (1993) cautions that often technology can simply be used to replicate classroom procedures and strategies and to foster teacher control rather than encourage learner control. For example, contextualized reading samples can be accessed in an electronic format (e-books) and read simultaneously with online dictionaries (e.g. www.babylon.com), thesauruses, and grammar helps (either customized to suit the text by the teacher or generic online searchable grammar supports). In such an environment, technology scaffolds the learning rather than simply delivering objects or files. Language meaning and use can be understood and practiced by the learner.

Negotiation as central

The role of the instructor also becomes important in a learner-centered and learner-directed environment (Yang, 1998; Thanasoulas, 2000). Instructors become co-learners, co-authors and co-designers with the students and intervene at significant stages, when needed to help the students continue on their learning path (Little, 1995; Cotterall, 2000). This kind of relationship depends on dialogue; open negotiation between student and teacher to establish learning goals and application needs (Breen, 2000; Cummins 2001).

When a course design includes learning scaffolds and learner-directed options, language learning becomes interactive and multidimensional (student with content, student with student, student with teacher and student with self and student with the WWW). This level of interactivity also intensifies the desire for students to produce and publish work in order to create an individualized presence in the environment (Kramsch, A'Ness, & Lam, 2000). Learning communities also provide a useful context to distance learners in order to establish connectivity, peer tutoring, and group work. Once connectivity has been established, communication becomes more direct and consistent. In addition, new technology can progress language learning beyond automated responses to a representation of individual identity (Meskill & Mossop, 1997). This means that the student assumes a "presence" in the environment (e.g. individual web page with links to authentic work but the student or an online portfolio – a *showcase* for the student). Any course of study has intended outcomes for learners. These outcomes are generic or global, not individualized. Without individualized learning outcomes, based on individual needs negotiated through dialogue and

interaction, students struggle with relevance and often drop out. In other words, if students cannot recognize their *presence* as having significance in the learning environment, they will feel overlooked and ignored.

Learner-directed

Cummins (2001) advances a framework of instruction for language learning and academic achievement that has three main aspects: (a) Focus on Meaning–making input comprehensible [both for mother tongue speakers and second language speakers] and developing critical literacy; (b) Focus on Language–awareness of language forms and uses and the critical analysis of language forms and uses; (c) Focus on Use–using language to generate new knowledge, create literature and art and acting on social realities.

Within his framework, Cummins (2001) identifies five phases of learning that he regards as necessary to move education beyond merely the transmission of information to knowledge generation or transformative pedagogy:

- Experiential Phase–where the prior knowledge of the student is accessed and is essential given that "Our prior experience provides the foundation for interpreting new information";
- Literal Phase–where basic content questions can be asked and answered from a superficial readings of texts;
- Personal Phase–where students are encouraged to relate the basic information to their own experiences and feelings;
- Critical Phase–where students engage in more abstract processes of critically analyzing the issues or problems raised in the text;
- Creative Phase–where students translate the results of the previous phases into concrete action (pp.258-259).

I also suggest the inclusion of an additional "Practice Phase" as long as the practice is self-directed and self-selected, rather than rote or teacher-led. This phase would include processes of interaction with and specific uses of the language demonstrated in the lessons. The last phase of creative production, or construction should include the actual assignment production and the construction of various learner-specific contexts for work production. Therefore, I propose a conceptual framework to encase the Cummins' framework of phases within a flexible framework of process–the process of open and equal communication and negotiation between learner and teacher. A process-based instructional framework can include:

- Various levels of communication (with peers, with teachers, with relevant sources)
- Self-directed and self-selected language practice (within authentic and "real" contexts of use)

- Language production (through speech practice – chat, telephone, audio files, and through written form, both conversational/informal, and formal – forums, discussion posts, web pages)

These are examples of technology used as scaffolding instruction; however, it is important to note that without open dialogue between teacher and student, the learning will not progress and results will not happen.

A 1997 study by Meskill and Mossop on the use of technologies with ESL learners reported that "The computer is now more widely used as a tool through and around which socio-collaborative language learning can take place" (p. 22). In addition, Meskill and Mossop found that technology had moved the theory and practice of language learning away from a ". . . static set of automated processes towards one that accounts for the multiple, complex aspects of language as a central feature of human identity" (p. 22).

Another recent study (Kramsch, A'Ness & Lam, 2000) suggests that use of an electronic medium, such as the computer, to teach language has developed a greater need and expectation of authenticity and authoring on the part of the learner. The study goes on to emphasize that interest in authenticity and authorship is evolving into a desire, on the part of learners, to operate as agents in their own learning and to identify and present a sense of individual self clearly (Kramsch et al, 2000). The study also makes a clear observation that the application of computers and multimedia environments is actually transforming the very representation of self through language (Kramsch et al, 2000).

Summary

Using the Internet as an instructional tool to support and construct instruction as well as deliver it, means that the potential of the technology itself must be utilized. Both the design of instruction and the learning environment itself must provide various levels of communication, interaction, and, in the case of language learning, practice and production, as possible. The following are a several suggested characteristics of dynamic and autonomous language learning for distance learners.

Self-direction

A key aspect of distance learning is self-direction both in navigation and resources selection – this is the same for the language learner at a distance. Rote learning and preset practice will frustrate the learner who is eager to demonstrate their learning and use the language. Distance learners also need to know that their self-direction will impact the outcome of the course by constructing their own learning path that is relevant and authentic to their reality. This is particularly the case for language learners in the use of real language.

Interaction

Hypertext technology and multimedia resources help to make the learning environment interactive for the learner. This is important to keep the learner engaged in the process. Without interaction, learners remain static and disinterested.

Instructor intervention

Highly self-directed instructional environments rely on instructor intervention even more than many conventional classroom contexts. The difference is that instructor intervention in a distance learning environment should be relevant to learner needs and specific to instructional details. This means that students should be free to initiate instructor intervention and expect almost immediate response. In a distance language environment, the feedback should use as many different communication technologies as possible so that language can be reinforced and practiced in written and spoken form.

Dialogue

Ongoing dialogue between teacher and student in order to negotiate learning needs, construct and demonstrate learning, and apply new learning in the real world is crucial to the learning process. Without dialogue, students will not sense their presence or their value to the environment. De-valued learners result in diminished results.

Authentic language production

Authentic and individual application of the language learned in a new way (i.e., language use beyond the preset parameters and scope of the preset content of the site) is vital to the language learner. The self-authoring potential of the Internet is highly effective in this regard. Students should be encouraged to publish work to others, create learning objects and dialogue openly with peers about the learning taking place. This will encourage language use at its most authentic and heighten the confidence of the learner.

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Virtual University- A Higher Education Administration Simulation and Learning Tool

By: James Penrod, Barbara Perry
Track 1 - Effective Technology Based Learning Environments
Interest: General :: Lecture/Presentation :: Level: All

Abstract

Remember all of the times you considered, if I were a member of the President's Cabinet or even President of this university, I could turn this place around? Now, you have your chance. Virtual University challenges the student, as a player, to be the president of a college or university. This first simulation of higher education administration provides graduate students an instructional tool which offers an active learning environment, develops intrinsic motivation to learn, and serves as a valuable, practical, concrete learning experience. The presentation will provide a demonstration of the simulation and discuss potential uses in the classroom.

Proceeding

Introduction

Colleges and universities are faced with a crisis in leadership. Current leaders are ill-prepared to meet the challenges of "lean resources, escalating competition, and hyperturbulent change" (Cameron and Quinn, 1999). Consequently, Cameron and Quinn suggest that "never has there been a period of time when effective managerial leadership is more crucial for organizational success" (p. 106). Virtual University provides an educational means to stem this crisis in leadership. This simulation is a powerful instructional tool that provides graduate students, current

administrators, and future leaders an opportunity to confront the complicated dilemmas of college and university leaders. We suggest graduate students who participate in the simulation, Virtual University, will be better able to meet the pressing challenges of college and university leaders. The subsequent informed decisions will help to ensure the organizational effectiveness and future success of the students' colleges and universities.

During this session, we will examine the educational benefits of utilizing a simulation, a software application, as an instructional tool. How does the use of this simulation enrich student learning? Why does the use of Virtual University stimulate student intrinsic motivation to learn, deep learning, and support learner-centered teaching? And finally after a look at Virtual University, do you see VU as a means to develop current graduate students of high education administration into effective leaders who contribute and maintain the organizational effectiveness of colleges and universities?

What is Virtual U?

William F. Massy, the Virtual University simulation creator, suggests "there's a lack of understanding about the systemic character of a university" (as cited in Blumenstyk, 2000, p. A51). Thus, Massey has created the first working simulation of the American university. Simulation participants:

- Engage in common scenarios and problems that college and university leaders face on daily basis
- Work in real time – decisions affect faculty hiring and firing, admissions selectivity, or budget allocations.
- Have access to financial and operational reports at any time to inform decision making
- Are able to choose from several scenarios to construct the campus or university of choice
- Receive an end of year presidential evaluation from the Board of Trustees

Massey used data from IPEDS (the Integrated Postsecondary Education Data System), the College Board, and the High School and Beyond Survey as the basis for the mathematical models that drive the variables of the game. The simulation provides players the opportunity to become the college or university president who must develop, implement, and change institutional parameters and policies that result in the success or failure of the college or university (Virtual University Website, October, 2002). Six areas of university management are highlighted: 1) resource allocation and finance; 2) academic operations; 3) faculty roles and responsibilities; 4) enrollment management; 5) sponsored research; and 6) physical plant activities. (See Appendix for screenshots)

Theory Informs Practice

Course construction impacts student learning. The literature suggests that simulation is, indeed, an effective instructional tool. Simulation was found to: improve motivation to learn a subject (Dekkers & Donatti, 1981), encourage active learning (McKeachie, 1994), improve critical thinking skills (Ellington & Perceval), improve classroom climate and teacher flexibility (Hertzmann, 1974), and improve transfer of learning to other situations (Reid, 1976). In this presentation, we consider how use of a simulation develops students' intrinsic motivation to learn and develops deep learning. Furthermore, we suggest that Virtual University enables learner-centered teaching.

Wlodkowski (1999) suggests that for the development and sustenance of intrinsic student motivation to learn, adult students must "successfully learn what they value and wa t to learn in an enjoyable manner" (p. 14). Moreover, "adults by social definition, individual need, and institutional expectation are responsible people who seek to enhance their identity through learning that further develops their competencies" (p. 12). While thought, feeling, and action are directed toward making meaning, interest, involvement and a search for understanding characterize adults' intrinsic motivation to learn. The challenge for the instructor is to find this balance of "success + volition + value + enjoyment" (p. 14).

We suggest that the Virtual University provides the foundation for the development of student intrinsic motivation to learn. Graduate students engaged in the study of higher education administration should welcome the opportunity to participate in the realistic operation of a college and university. The dynamic environment of the simulation enlivened by a sense of competition generates student interest, requires student involvement and should elicit the student to search for understanding as the student thinks, engages feelings, acts and in fact, learns.

Weigel (2002) proposes that the use of technology in the classroom will enable deep learning. Moreover, he suggests that "although wisdom can in no way be programmed into a curriculum, it is possible to create learning environments that nurture its development by reflecting on the larger meaning and significance of a student's encounter with new knowledge" (p. xvi), or "learning that promotes the development of conditionalized knowledge and metacognition through communities of inquiry" (p. 5).

Furthermore, Weigel (2002) suggests that problem-based learning is a primary instructional strategy in the development of conditionalized knowledge. We propose that Virtual U, a simulation of a realistic college of university scenario with time constraints and impending executive evaluation and consequences, is a problem-based learning endeavor. In fact, participants readily learn when and where the content learned from Virtual University is useful. And, the simulation provides real time feedback to participant decision. Furthermore, metacognition, the art of thinking, enables self reflection for students on individual personal level of understanding as a result of participation in Virtual University. Immediate feedback enables participants to gauge individual level of understanding and if necessary remedy any deficiencies. Finally, the simulation generates discussion

among participants and the facilitator which fosters the community of inquiry.

Thus, students who are intrinsically motivated to learn will enjoy deep learning. Yet, it is the instructor's responsibility to utilize the principles of learner-centered teaching to foster this learning process. Weimer (2002) suggests five principal changes from traditional teaching methodology to foster learner-centered teaching: 1) a change in balance of power, 2) a change in the function of content, 3) a change in the role of the teacher, 4) a change in the responsibility for learning, and 5) a change in the purpose and processes of evaluation.

Theory Supports Practice-Learner- Centered Teaching Principles Support the Practice of Virtual University

Principles of Learner-Centered Teaching	VU – How the simulation enables Learner-Centered Teaching
A Change in the Balance of Power	Instructor facilitates – Students control process and progress
A Change in the Function of Content	VU helps students develop self-directed learning skills and enables individual student assessment and critical reflection as a result of immediate simulation feedback
A Change in the Role of Teacher	Instructor's role is to design the course. In the simulation, instructor is forced to be a facilitator. VU helps students experience discovery and learn through collaboration
A Change in the Responsibility for Learning	Individually or collectively, students must make the decisions to move through the simulation in real time
A Change in the Purpose and Process of Evaluation	Students receive immediate evaluation through simulation feedback which allows for critical reflection and learning

Thus, the VU provides ample opportunity for the instructor to make the changes Weimer proposes. She suggests that "learner-centered instruction involves a reallocation of power in the classroom. Faculty members are required to give students some control over those learning processes that directly affect them" (2002, p. 45). Consequently, instructors must "guide and facilitate learning" (p. 74). Although this concept is not new, facilitation must occur for learner-centered teaching to occur. In addition, Weimer notes that content becomes the means whereby learning outcomes are explicitly advanced. Finally, learner-centered teaching enlarges the purpose of evaluation; evaluation does not solely generate grades but promotes learning.

Student and Faculty Assessment of VU – The Instructional Tool

Virtual University has only been used in courses since fall of 2001. Yet, the Virtual University website provides insightful comments from faculty who have utilized this instructional tool.

Faculty Comments

"I think VU's power is that it demonstrates the fundamental interconnectedness of decision-making; and yet at the same time depicts the indirect nature of colleges and universities." (Joanne Burrows, Indiana State University).

"VU allows students to model how an entire institution functions – especially if, in their current positions as administrators, they have become stuck in their own trenches. . . For, perhaps, the first time in their careers in higher education, they can clearly see how a decision made in one area impacts another." (Joshua Powers, Indiana State University).

"Students tend to remember better what they have learned when the educational experience is engaging and the knowledge is applied." (Myra Strober, Stanford University).

"Virtual U is an excellent tool for students to gain an understanding of the complexities of higher education administration. It can be used very effectively to illustrate the cause and effect relationship of decision-making policies." (Kevin Kinser, State University of New York, Albany)

"You need to see VU to really understand the potential of the product . . . I think the significant thing about this tool is its ability to demonstrate the complexity of decision-making in fairly realistic terms." (James Penrod, University of Memphis)

Student Comments

We asked students in Higher Education Administration at University of Memphis to provide feedback about the impact of VU on their learning experience. Students were asked to discuss the merits and problems with the use of VU as an instructional tool. Student comments include:

"The simulation enabled me to see the inner workings of budget, faculty, and a board of directors. The game provided an opportunity to experience a real-life scenario based on institution-wide decisions."

"Decisions made as a president directly and indirectly impact the president's standing with the board of trustees, faculty, staff, and students. A president has to be able to look at every area of the university and determine the priorities based on the board, the faculty, and the students."

"I felt as if the simulation helped me to see the type of things that I will encounter if I am ever in a senior administrative position. Also, it opened my eyes to the importance of communication. . . It made me aware of how a small decision could affect so many things in a variety of ways."

"I feel that the game is a remarkable tool in adult education and administration. Yet, there should be some changes in how faculty and staff communicate with the president of the university."

"I feel the simulation was a great tool for learning. It allowed the learner to see the possibilities of what could have if administration had the flexibility to change budgets, personnel, etc. Although the game proved the importance of communication, the player could not speak with personnel to find out why things were as they were, and you had to make decisions blindly."

"I was disappointed that we were not able to communicate with the faculty, staff, and board of trustees."

"I was extremely frustrated with the time that this project took. I never had a clear understanding of how the game worked and what we were supposed to do."

"I found myself in situations where faculty and staff resigned due to things of was unaware of. I feel that there should be some type of way of corresponding with faculty."

"The results of my decisions were not always good but you learned to live with them. I suppose that administrators in higher education go through much the same feelings that I felt when my decisions to make changes did not bring about positive results."

Next Steps, New Directions

Virtual University adopters and students offer suggestions to the simulation's creators for innovation and change. Students request an interactive component whereby they are able to communicate with faculty and administration and discover background information when making decisions. Moreover, students request a simple overview of the mechanics of the game. With a broad range of student technical expertise, an attempt must be made of the instructor and technical support to level the playing field for students. Some recommendations include:

- Give students a glossary of terms and discuss unfamiliar definitions as they are used in the game.
- Provide student with "hints and strategies" for playing the game
- Do an in-class tutorial focusing on areas that involve extensive decision-making such as faculty and budgets
- Use a scavenger hunt to encourage student to explore the game more fully

- Have students work in groups to benefit from individual areas of expertise and encourage peer learning. Faculty adopters concur with student recommendations and add a few more ideas for improvement.
- Prepare students for the technical process of decision-making but also for the institutional strategies that administrators utilize. Instructors should familiarize students with a means to develop budget priorities, show students how to read VU's graphs and how budgeting and faculty decisions impact presidential performance appraisals.
- Inform students of the importance of taking precise notes to reflect decisions made for future reference
- Carefully choose readings to augment the events of the simulation. Readings in performance budgeting, strategic planning, educational policy are suggested.
- The sooner the participants make decisions with the Virtual University, the better their learning experience

VU is a powerful instructional tool. The simulation enhances student learning and impacts courses in higher education administration and the finance of higher education. It provides an opportunity to model the relationship between departmental decisions and senior administrative decisions. We see this simulation as a means to demonstrate to graduate students in higher education the need for administrative alignment and coordination in policy decisions within an institution. Students quickly see the impact of budgetary decisions for one institutional management area on other institutional management areas

Future Directions – VU – An Instructional Tool for Higher Education Administration

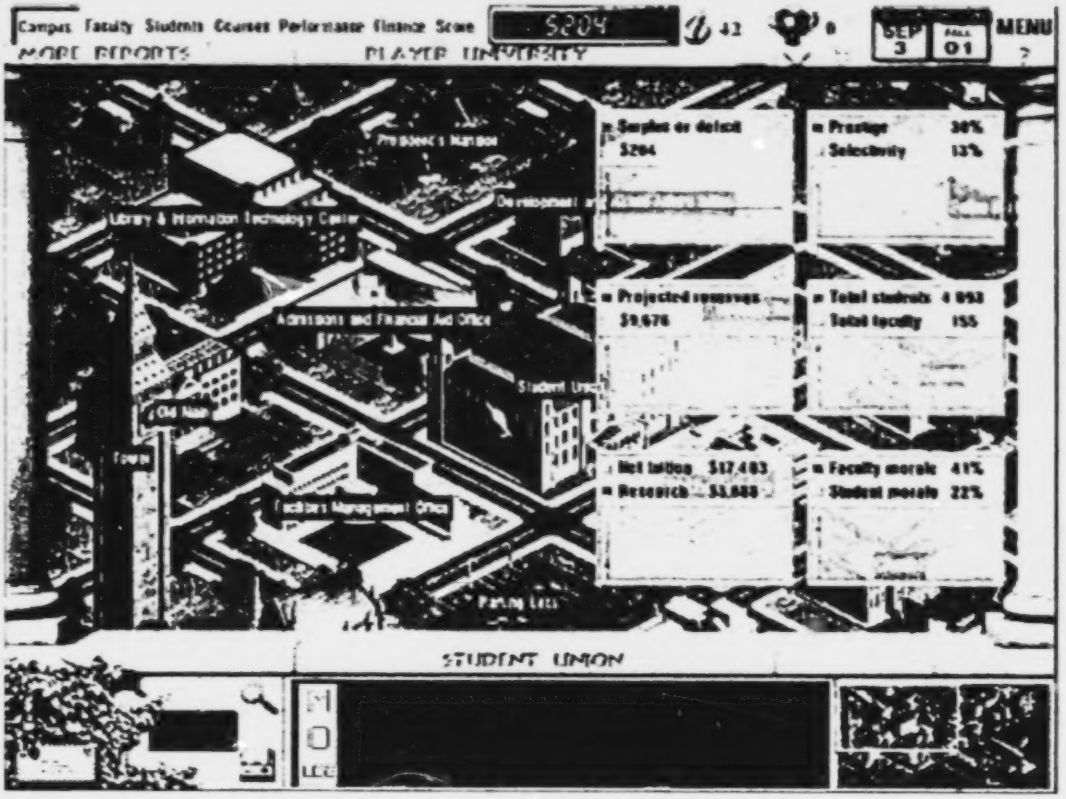
We suggest that the simulation would be beneficial in a variety of courses in higher education: higher education finance, higher education administration, trends in higher education, higher education leadership, as the basis for a capstone course, or a course studying the professoriate. In addition, we see VU as a useful tool to train new department chairs providing them with a viable review of the issues and dilemmas of higher education which currently impact academic leaders as decisions are made. We ask that you consider how this tool could be helpful in other disciplines beyond higher education administration? For instance, does the simulation raise pertinent issues for sociology and political science?

Conclusion

Colleges and universities are faced with a crisis in leadership. In fact, current academic leaders are ill-prepared to meet the challenges of "lean resources, escalating competition, and hyperturbulent change" (Cameron and Quinn, 1999). Furthermore, as William F. Massey, the creator of Virtual University suggests, an urgent need exists for academic leaders to understand the systematic nature of colleges and universities. We believe that Virtual University, the first working simulation of an American university, provides an educational means to stem this crisis in leadership. We propose that this active learning experience provides an extraordinary option for students to readily experience and learn the vital

importance of institutional policy alignment and coordination in academic leaders' decision-making. In fact, VU illustrates the impact of managerial leadership on organizational effectiveness and success. Moreover, we believe that the simulation enriches the graduate students' learning experience by stimulating student intrinsic motivation to learn and deep learning enhanced by pedagogical excellence - learner-centered teaching.

Screenshots



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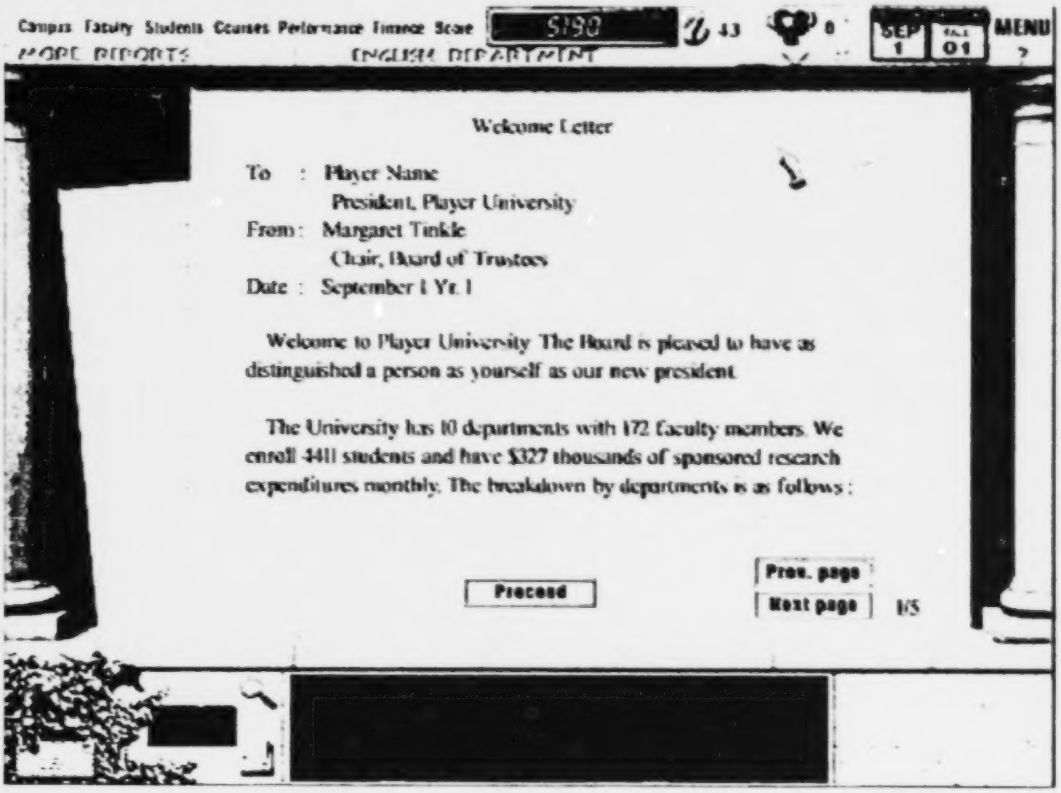
Campus Faculty Students Courses Performance Finance Score
$190
43
0
SEP 1
01
MENU
MORE REPORTS
ENGLISH DEPARTMENT
Welcome Letter
To : Player Name
President, Player University
From: Margaret Tinkle
Chair, Board of Trustees
Date : September 1 Yr 1
Welcome to Player University. The Board is pleased to have as distinguished a person as yourself as our new president.
The University has 10 departments with 172 faculty members. We enroll 4411 students and have $327 thousands of sponsored research expenditures monthly. The breakdown by departments is as follows :
Proceed
Prev. page
Next page
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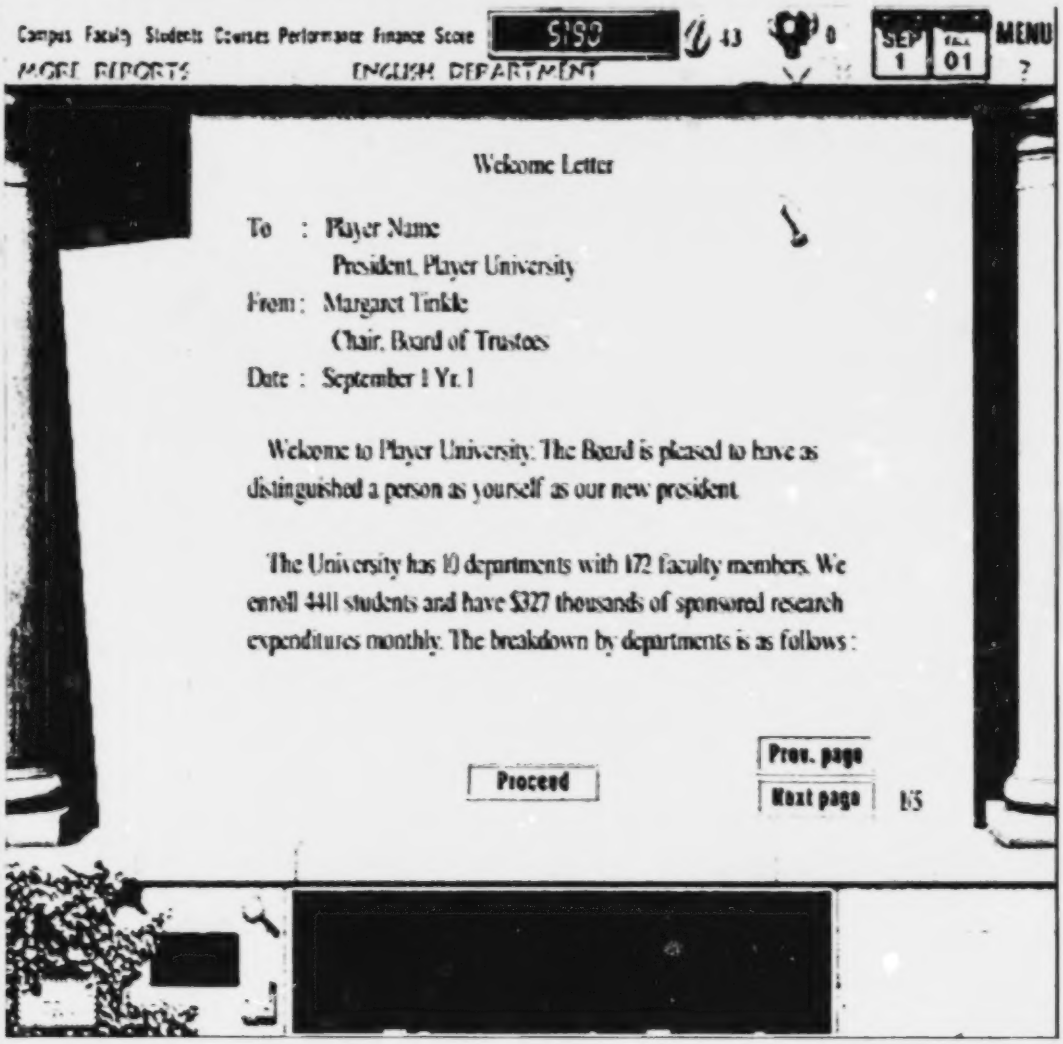
Campus Faculty Students Courses Performance Finance Score
$193
43
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The University has 10 departments with 172 faculty members. We enroll 4411 students and have $327 thousands of sponsored research expenditures monthly. The breakdown by departments is as follows :
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65

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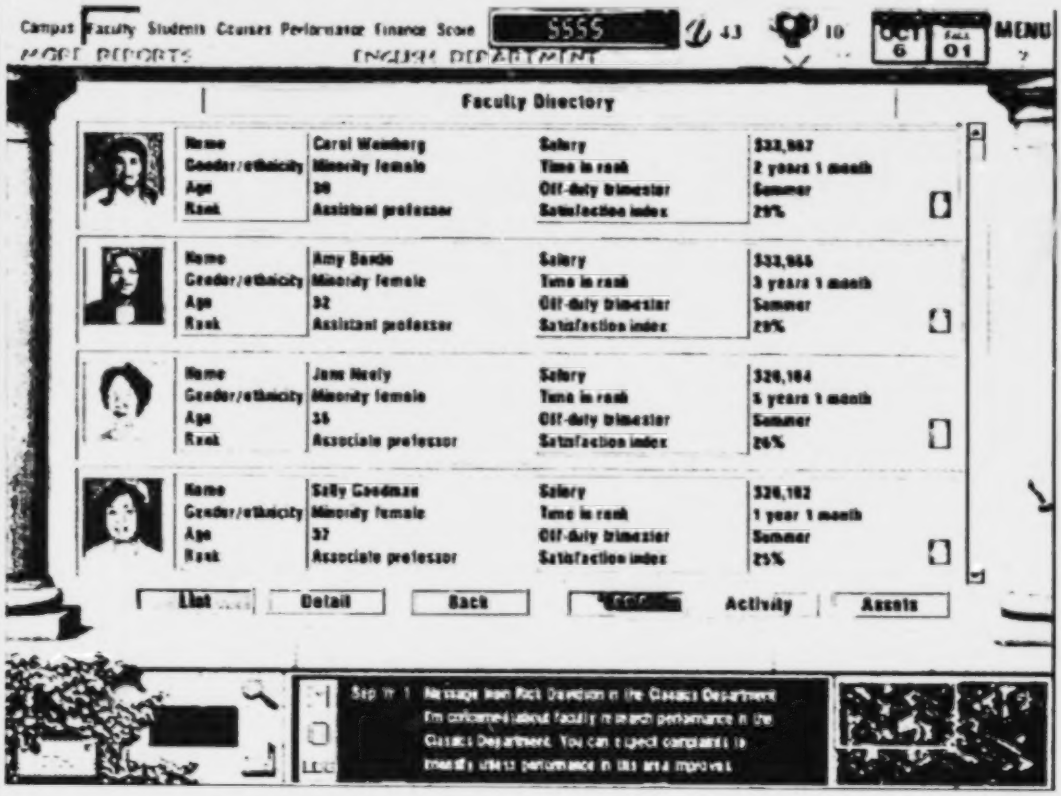

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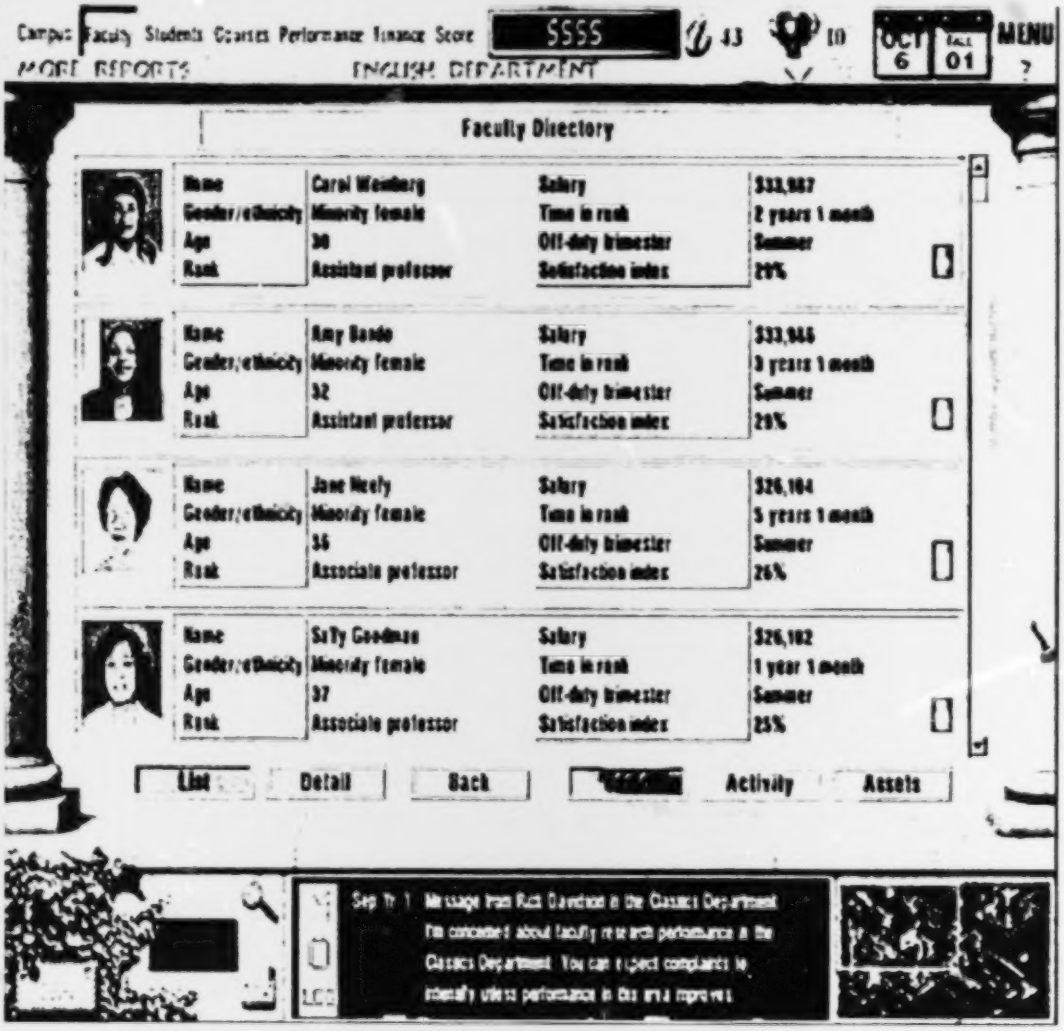

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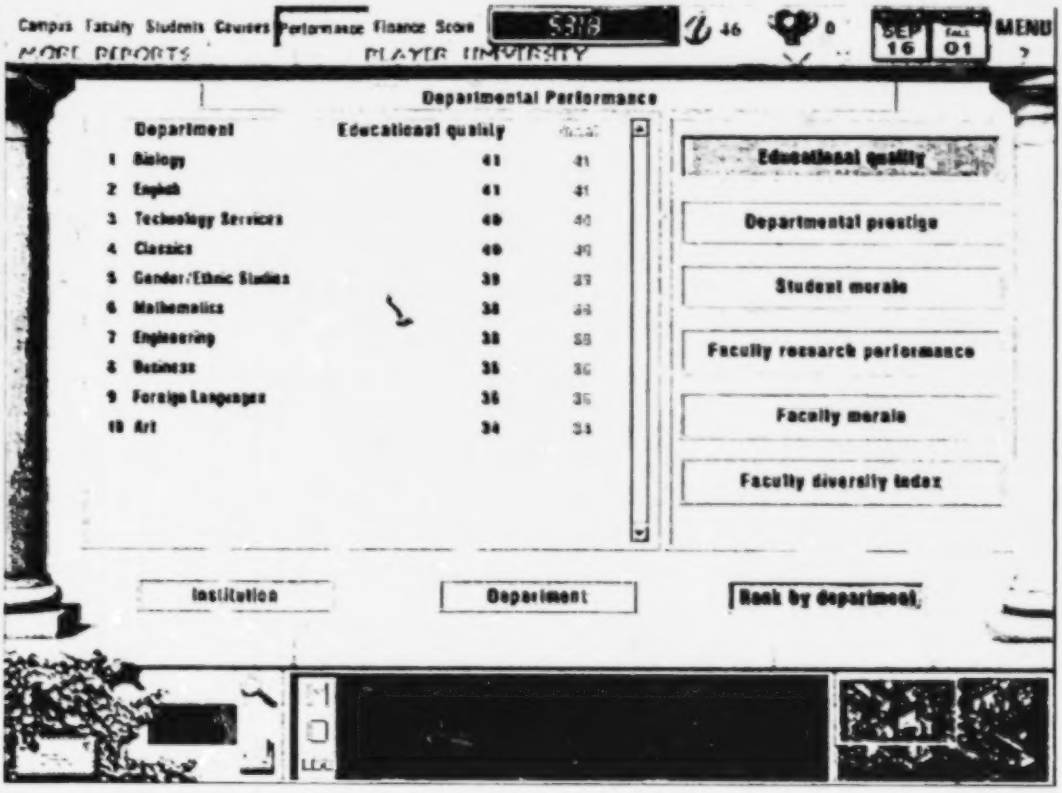

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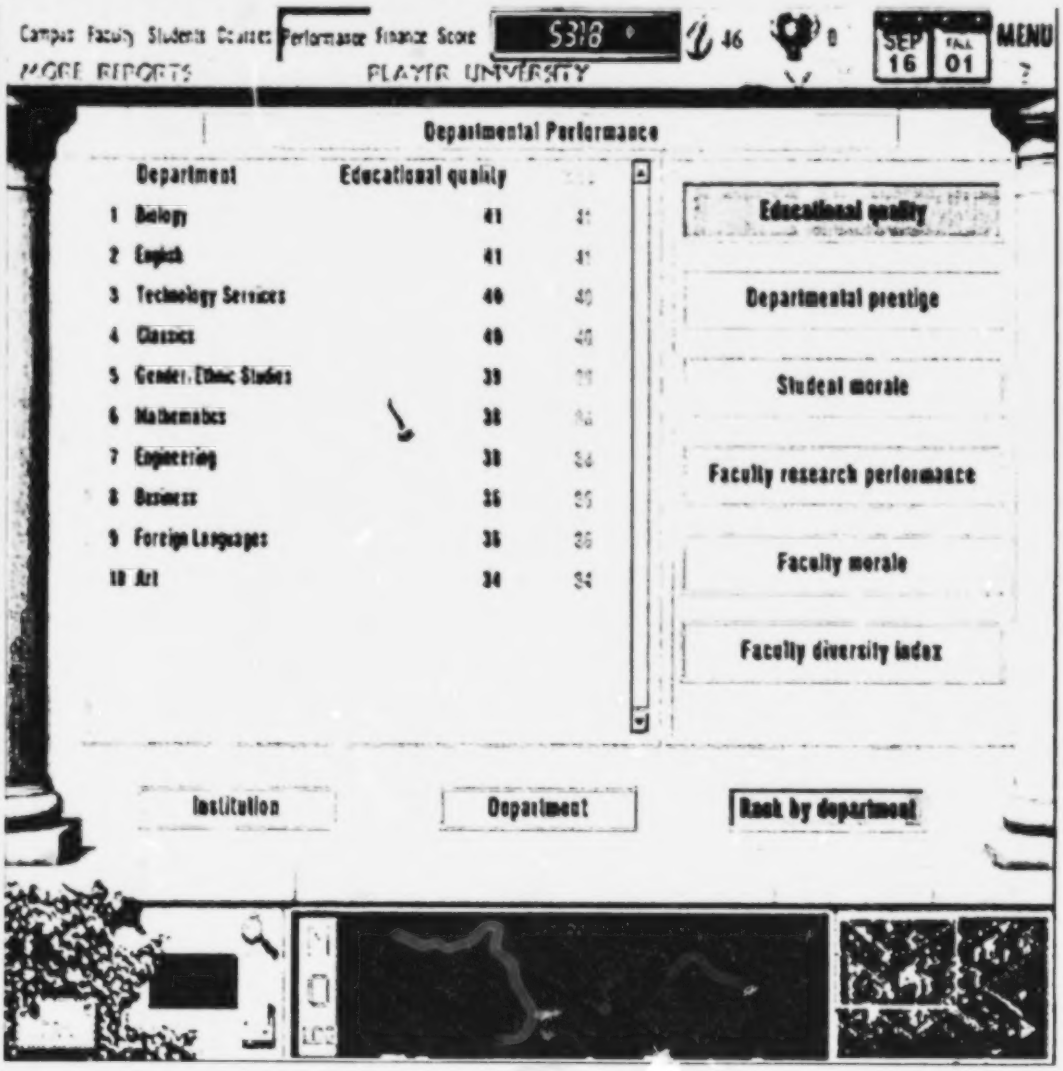

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Eighth Annual
Mid-South Instructional Technology Conference
Teaching, Learning, & Technology
The Challenge Continues
March 30-April 1, 2003

2003 Conference Proceedings

Designing and Developing Interactive Instructional Concepts

By: Darla Runyon
Track 2 - Innovation and Future Implementation in Instructional Technology
Interest: General :: Lecture/Presentation :: Level: All

Abstract

Online teaching has sparked new teaching strategies for faculty to incorporate whether in campus-based, web-augmented, or online courses. One of the most effective and significant of these new techniques is the integration of instructional concepts. This presentation will provide a detailed discussion of the process, tools and techniques used to design and develop interactive, web-based instructional concepts that illustrate critical course content. Examples of instructional concepts and how they are integrated into a course will be shown as well.

Proceeding

Online teaching has sparked new teaching strategies for faculty to incorporate whether in campus-based courses, web-augmented course sites or in an online delivery mode. One of the most effective and significant of these techniques is the integration of interactive, instructional concepts. This technique provides a way to engage online students in the learning process.

When preparing to teach online, many instructors look at the campus-based model and try to design their online course based on this model. In order for online delivery to be a successful learning medium for the student, though, a major redesign must take place. The redesign process fosters the emergence of a teaching strategy, which facilitates students engaging themselves in their individual learning cycle. This strategy is the integration of instructional concepts into the learning cycle for a particular module of content.

Instructional concepts are the application components of the critical content of a course or module. These instructional concepts may be: 1) concepts that have been historically difficult for students and/or 2) critical course concepts, which students must know to function in real-world situations.

Once developed, these instructional concepts can become a part of an integrated learning experience where critical content is first presented to the student followed by the presentation of the instructional concept. Students are given the opportunity to work with the concept as many times as needed before completing a performance assessment, which may lead the student back into the learning cycle for supplemental relearning and reassessment. These instructional concepts can be incorporated in campus-based, a web-augmented or online course sites.

The focus of this presentation will be on providing the necessary background information about the framework upon which such instructional concepts can be built. Participants will be provided with a detailed discussion of the process, tools and techniques used to design and develop an instructional concept. A wide range of examples of instructional concepts and how they are integrated into a course will be shown as well and should provide the participants with a strong basis upon which to build similar projects.

The core of this presentation will be an interactive discussion between the presenters and the session participants. Additionally, access to program web sites containing relevant materials and information will be made available to the participants.

Eighth Annual
Mid-South Instructional Technology Conference
Teaching, Learning, & Technology
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2003 Conference Proceedings

How to Develop Streaming Multimedia Lecture Presentations

By: Thomas Keefe
Track 2 - Innovation and Future Implementation in Instructional Technology
Interest: Faculty :: Workshop :: Level: Beginner

Abstract

I teach undergraduates at Indiana University Southeast's School of Business - a regional IU campus. Since 1999, I have used streamed lectures in my classes that I created myself with PowerPoint. McGraw Hill has used these lectures as part of course packs for an Organizational Behavior textbook. The session is intended to show instructors how to develop their own streaming multimedia presentations that can be loaded onto a schools' server and played by students over the Internet.

Proceeding

The Challenge

Can the traditional classroom experience face up to the challenge of the Internet? The use of the Internet in a hybrid course allows an instructor flexibility to rethink how best to teach. In this workshop, participants will learn how to develop streaming media presentations based on readily available, easy to use technology. Specifically, Microsoft PowerPoint © will be used to develop two types of narrated lectures. A compressed format lecture, based on Microsoft's advanced streaming format (ASF), and a Hypertext Markup Language (HTML) will be produced using the sound recorder that comes with various versions of the Windows© operating systems and PowerPoint 2000© and later. For a pedagogical explanation of how to use streaming lectures as part of an active learning environment to enhance a traditional classroom, please refer to session titled: "Enhancing a Face-to-face Course with Online Lectures: Instructional and Pedagogical Issues," to be presented at this conference on Tuesday, April 1, 2003, 9:50 a.m. – 10:50 a.m.

I have wanted to use active learning techniques in my classrooms, but could not find time, to cover course content and use the interactive learning techniques recommended by education experts (Bonwell & Eison, 1991). Active learning stresses the need for more interactions of students with instructors and others. Active learning uses practices such as immediate feedback, interactive learning, or collaborative learning for improving undergraduate education. All of these techniques rely on increased levels of student interaction to foster student motivation and learning, but can eat up large amounts of class time. Streaming lecture content to students before they come to class provides me with the opportunity to cover content and have time to use active learning techniques in class.

Since 1999, I have used courseware to teach 15 sections of on-line, face-to-face, and enhanced versions of courses. I consider an enhanced course to be one where activities have been selectively moved out of the classroom and on to the Internet to free up time for other classroom activities. When I began looking to take my lectures on-line, the first hurdle I faced was how to create web pages where my students could come for instruction. The Internet is made out of electronic bits and bites that need to be programmed or else they do not behave properly. I am no programmer, and for me the notion of learning to create web pages was an onerous and challenging notion. However, I found an easy solution to my problem. Courseware automates and simplifies the process of developing and delivering distance education courses. Courseware is a unified suite of Internet-based software intended to ease that burden. Each semester when I create the websites for my course sections, I use courseware created by my University (Indiana

University, 2001,a). Other commercially available courseware packages are readily available. See Indiana University (2001b) for a comparison of features among popular versions of courseware. In general, courseware contains a comprehensive tool set including such features as: e-mail, discussion forums (electronic bulletin boards), chat rooms, tests and surveys, and Internet research tools like search engines and library reference databases. According to creators of courseware (e.g., Indiana University, 2001,a; Blackboard, Inc., 2001), it may be used to create an on-line course or to complement face-to-face instruction.

Courseware

Teaching over the Internet requires a website. Students gain access to a course by using the Internet to connect to the course's website. Luckily, the construction of websites has been automated by the use of courseware, i.e., Internet-based class management software. Courseware is a solution for creating Internet-based websites whether for use with distance education or face-to-face instruction.

Oncourse is Indiana University's proprietary version of courseware. It is a highly integrated and interactive set of software tools. The University uses Oncourse to dynamically generate websites for each course being offered each semester. For each of the thousands of courses offered each semester, a website is generated which supports such features as: a syllabus, schedule of classes, class roster, student and faculty profiles, a place to post projects and other written communications from the instructor, threaded discussion groups, chat rooms, course-mail, on-line testing & surveys, on-line grades, and Internet research tools. Readers are invited to browse the course layout by visiting the author's on-line class as a guest at http://oncourse.iu.edu/se/ enter username: ecause* and password: password.

Students are able to watch lectures online from within courseware, directly over the Internet from a server, or from CD-ROM's. Figure 1 is a screen shot showing an Oncourse website for a section of my class. This screen shot shows a link to the publisher's website for the textbook used in the course. Students can access the same lectures from a link to the school's server or a CD-ROM playing on their own machine at home.

Figure 1, Oncourse Link Out to Lectures on Publisher's Website

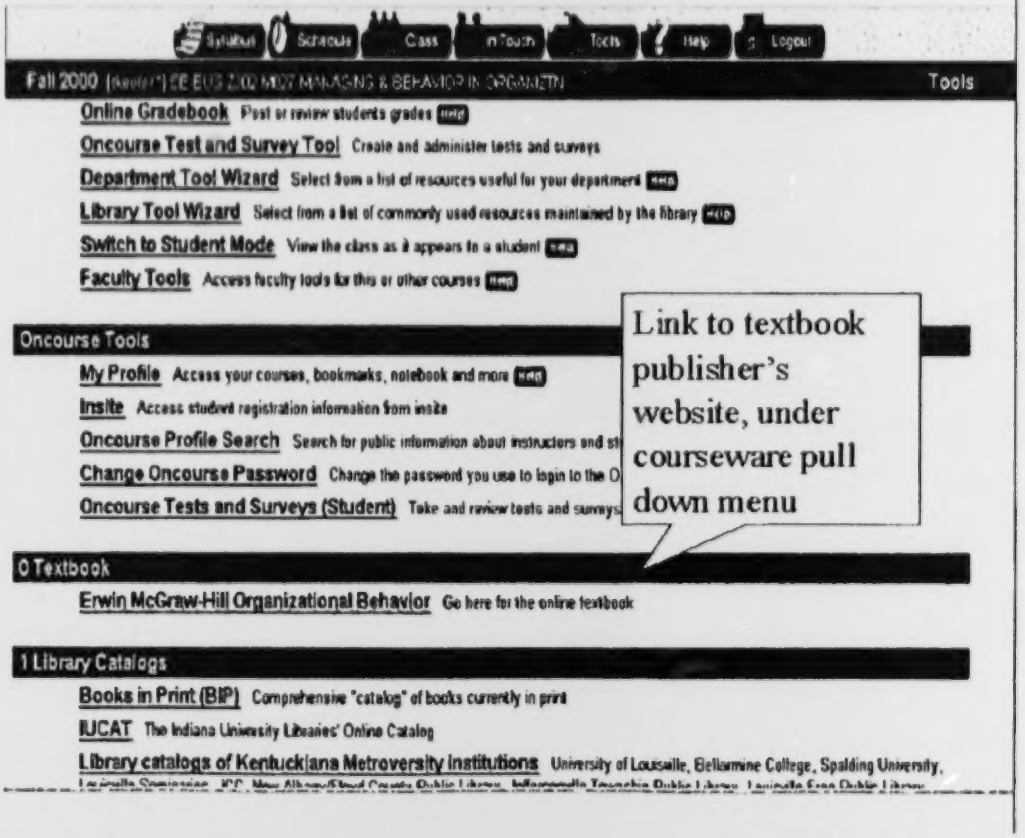
Syllabus
Schedule
Class
In Touch
Tools
Help
Logout
Fall 2000
Tools
Online Gradebook Post or review students grades
Oncourse Test and Survey Tool Create and administer tests and surveys
Department Tool Wizard Select from a list of resources useful for your department
Library Tool Wizard Select from a list of commonly used resources maintained by the library
Switch to Student Mode View the class as it appears to a student
Faculty Tools Access faculty tools for this or other courses
Oncourse Tools
My Profile Access your courses, bookmarks, notebook and more
Insite Access student registration information from insite
Oncourse Profile Search Search for public information about instructors and st
Change Oncourse Password Change the password you use to login to the O
Oncourse Tests and Surveys (Student) Take and review tests and surveys
Link to textbook publisher's website, under courseware pull down menu
0 Textbook
Erwin McGraw-Hill Organizational Behavior Go here for the online textbook
1 Library Catalogs
Books in Print (BIP) Comprehensive "catalog" of books currently in print
IUCAT The Indiana University Libraries' Online Catalog
Library catalogs of Kentuckiana Metroversity institutions University of Louisville, Bellarmine College, Spalding University,

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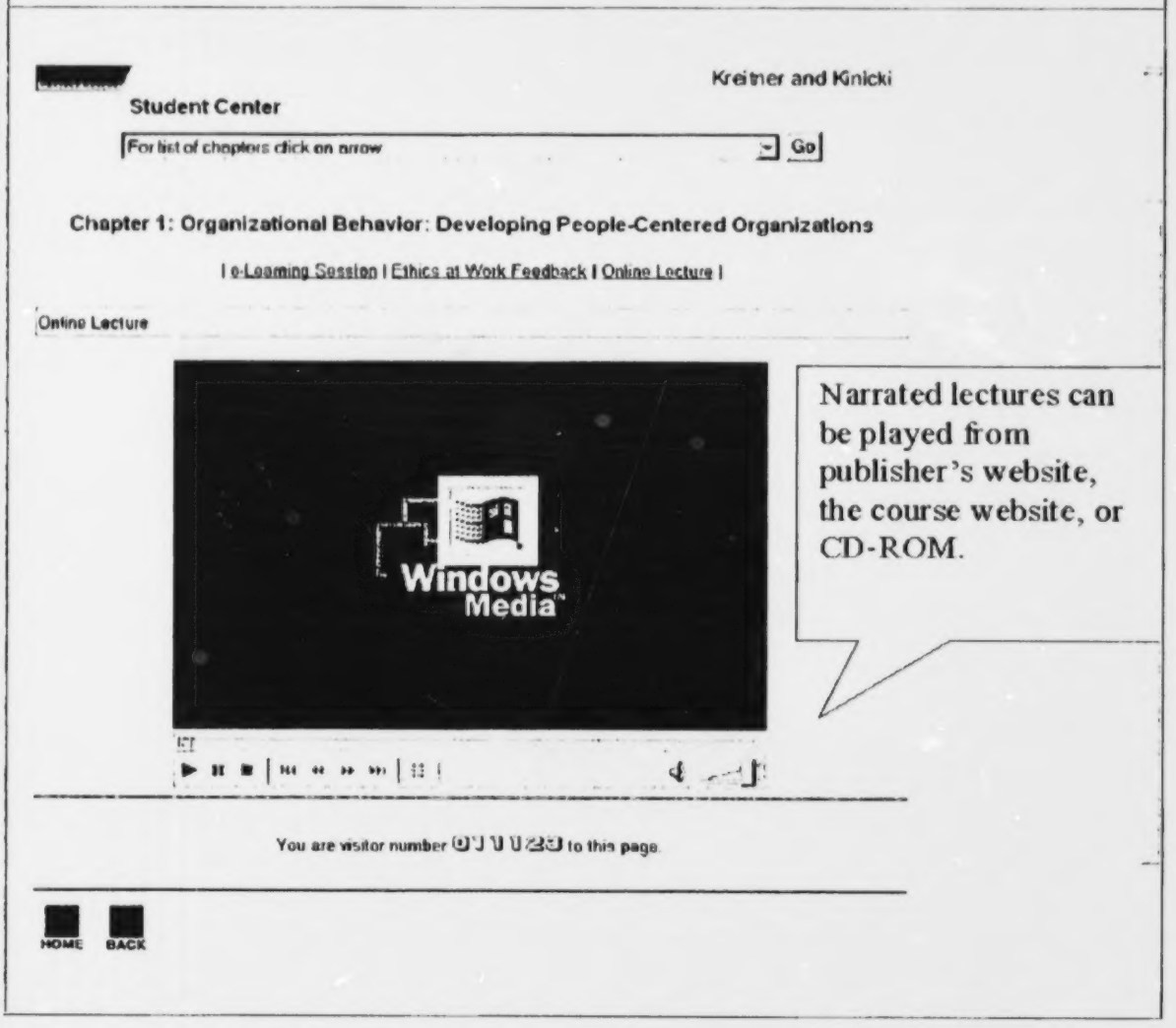
Figure 2 is a screen shot that shows the contents of a lecture being streamed from the textbook publisher's website to a student's desktop. In all cases, narrated content can be presented to students on-demand.

Figure 2, ASF Narrated PowerPoint Slide Show Streaming From Publisher's Website


Kreitner and Kinicki
Student Center
For list of chapters click on arrow
Go
Chapter 1: Organizational Behavior: Developing People-Centered Organizations
| e-Learning Session | Ethics at Work Feedback | Online Lecture |
Online Lecture
Windows Media
Narrated lectures can be played from publisher's website, the course website, or CD-ROM.
You are visitor number 01123 to this page.
HOME
BACK

Compressed files employing Microsoft's advanced streaming format (.asf) were used. The advantage of .asf-formatted files is size and speed. The compression algorithm used with PowerPoint achieves a ten to one compression, reducing disk size of presentations by ninety percent. Disadvantages of an ASF files are its lack of clarity and that students cannot navigate back and forth through a streamed lecture. Part of this problem can be overcome by providing students with a CD-ROM version of the ASF presentation. Using a CD-ROM version of a presentation and Windows Multimedia Player 6.0 a student can browse back and forth through an ASF file.

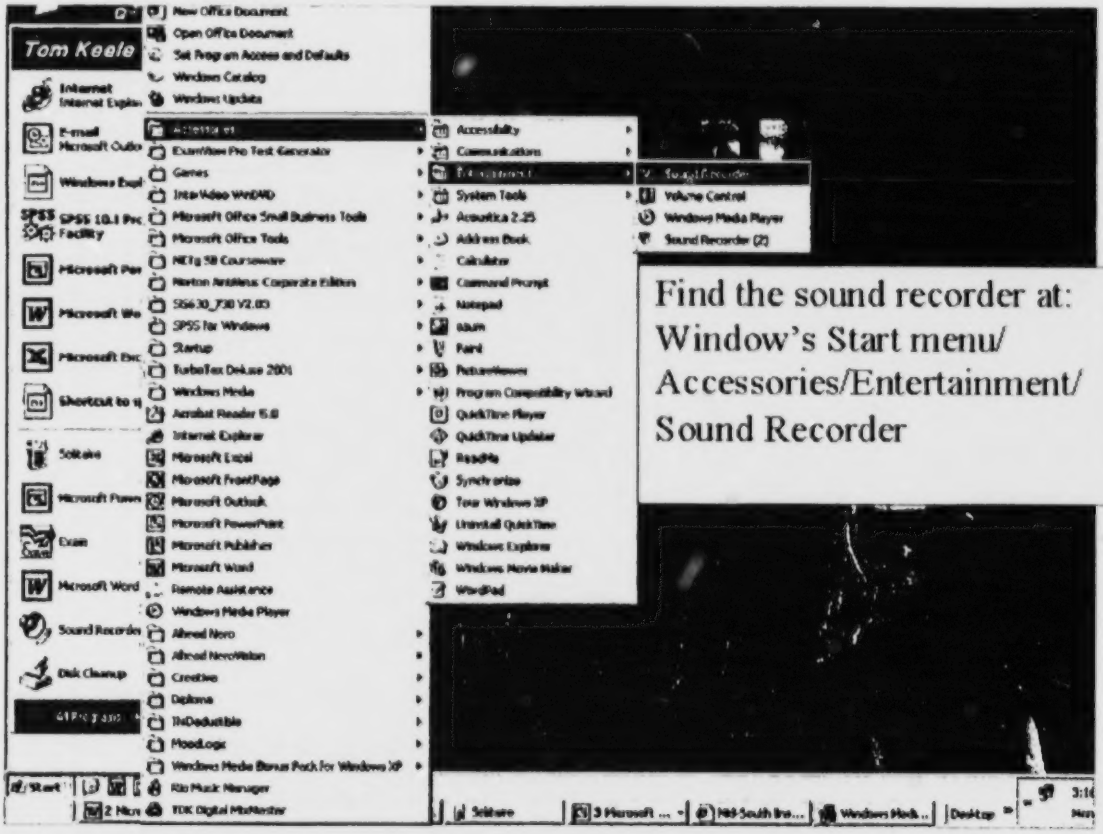
PowerPoint can also be used to develop uncompressed slideshows in HTML format that have very good quality and all the features of a PowerPoint presentation such as links and transition. The disadvantage of HTML presentations is their large size.

Recording Lectures

Each semester, students receive narrated PowerPoint slide show lectures that serve as first-exposure lectures. Each

lecture was generated based on scripts that followed the learning objectives of the textbook used for the course. Scripts were prepared for each lecture. The lectures were tightly integrated with materials in the book, so that at appropriate times, references were made in class and on the disks to pages containing material, exercises, and cases. These scripts were then used to generate PowerPoint narrations. To narrate on-line lectures, the recorder that accompanies Windows was used to record the scripts to create sound files (WAV format) that were embedded in PowerPoint presentations. (See figure 3.)

Figure 3, Location of Windows Sound Recorder



Using the Sound Recorder

Sound Recorder will record 60 seconds of narration, non-stop. To record narrations longer than 60 seconds, stop and start the recording. Each time the recording is stopped then started adds an additional 60 seconds of recording time to a narration. The content covered in an hour and 15-minute lecture, takes up much less narration time. In class, a lecture is frequently broken up with pauses. An instructor will rarely speak on the content of a lecture for the whole of the period. Based on my experience, expect for each hour of lecture material about 30 – 40 minutes of narration.

In terms of quality, to get the most out of Window's Sound Recorder, some features need to be set that depend upon the targeted playback rate. At higher recording rates, both sound fidelity improves and file size grows. Albeit improvements in sound quality will not be noticeable upon playback at slower rates. Because of bandwidth constraints, many users receive information over the Internet at much slower rates than others. Older dial up connections still operate at 28.8 kps, while users on fast access DSL or cable connections receive data up to ten times faster. When recordings are streamed to users at slower rates, playback quality will be reduced.

Figure 4 shows the Sound Selection Dialog Box for the Sound Recorder having been set to create sound files at a recording rate of 8,000 kHz, 8 Bit, Mono. If you plan slower Internet presentations (28.8 kps), Microsoft recommends an

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attribution setting of 8,000 kHz, 16 bit, Mono for best results. Set the attribution field in the sound selection dialog box to 16,000 kHz, 16 bit, Mono if you plan on intranet (100 Kpbs) presentations. For reference, telephone quality is about 11,025 kHz, radio quality is about 22,050 kHz, and CD quality is 44,100 kHz. Setting the attribution field determines recording rates that affects both fidelity and file size of recordings. At the 16,000 kHz recording rate, files grow by 31kb/second. At this quality, ten lectures with 45 minutes of narration would occupy about 850 mega bytes of disk space. For reference, the size of a CD-ROM is about 680 mega bytes. These numbers are for uncompressed files.

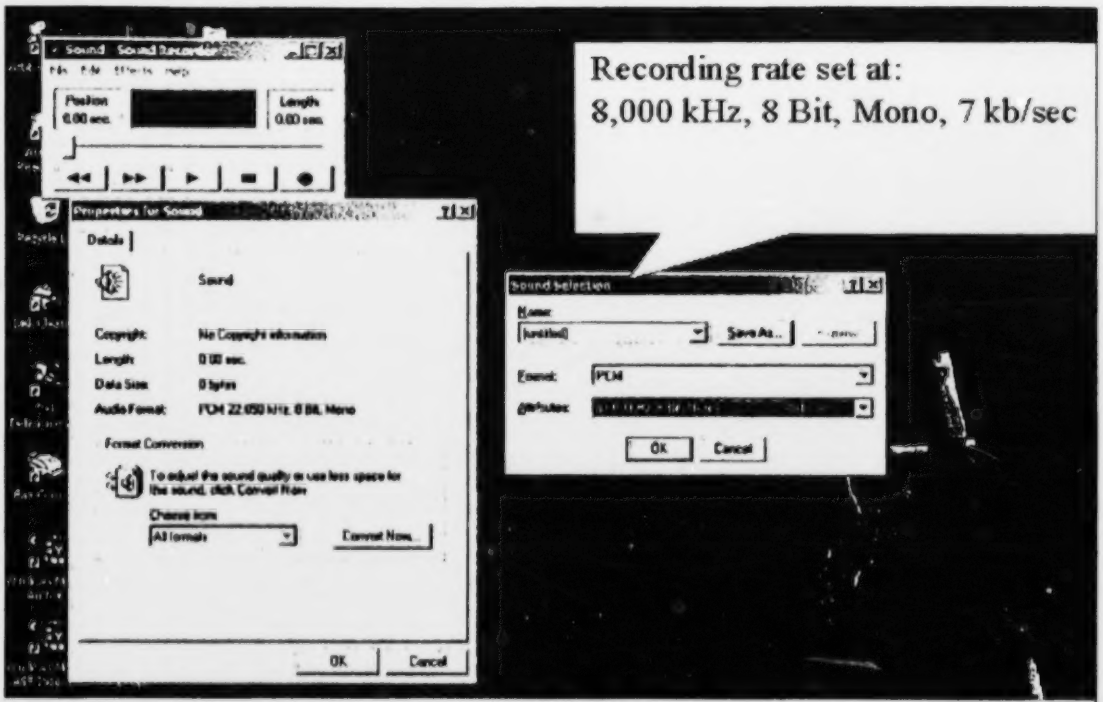
Compressing PowerPoint Presentations

Later, we will talk about making the playback of your presentation appear the way it was created. To do so will require making a copy of your presentation available on a web server in HTML format. The disadvantages of HTML presentations are that they require the use of lots of server space and are not easily portable. Presentations can be made portable by publishing them as ASF files. PowerPoint 97 and later can publish ASF files that synchronize audio-visual PowerPoint presentations, so they can be played back on a network or on a student's home computer. Playback over the Internet happens when students point their web browsers to the URL address holding your presentation. The browser streams the presentation to the Microsoft Windows Multimedia Player.

PowerPoint makes ASF files by converting PowerPoint slides to JPEG images, associating a narration recorded for each slide as a WAV file, and compressing them all into a single ASF formatted file. Converting PowerPoint slides into an ASF file uses a compression algorithm to reduce file size. At the time the ASF file is published, the compression feature in PowerPoint gives the publisher control over the playback speed. This is necessary because many students at home still use slow dial up modems. Many problems caused by such narrow bandwidths can be avoided by publishing ASF files that stream as slow as 28.8 kps. All of this means that you will be making a trade-off between file size, network bandwidth, audio and image quality, and the amount of compression. Keep in mind when creating PowerPoint slides for later playback that a presentation can contain so much information that no amount of compression or size reduction will produce an acceptable product. In this regard, I have found that using minimal amounts of text accompanied by detailed voice narrations works best.

In the next step, you will be introduced to the process of embedding .wav format sound files in PowerPoint slides and compressing the PowerPoint slides together with the embedded WAV sound files into a single Windows Media file published as an ASF file. Compression algorithms are improving all the time. Right now, ASF files that stream at 28.8 kps achieve about a ten to one compression. A giga byte of audio and video can be reduced to about 100 mega bytes. File size and playback quality is dependent on the amount of information contained in a PowerPoint presentation and the target bandwidth of the ASF file. In the end, the best way to find an ideal recording rate and conversion rates is to tryout a few settings. I usually create several ASF versions of the same presentation, depending on where they will be played back – one version for playback over the Internet at 28.8 kps and another for playback on home computers at 100 kps. I record all my narrations at the higher narration rate to avoid having to make two sets of recordings.

Figure 4, Recording Sound Narration Using Windows Sound Recorder



To create ASF audio-visual files, sound files recorded with the Windows Sound Recorder are first embedded in each slide of the PowerPoint presentation. (See Figure 5.)

Figure 5, Embedding Sound Narrations in PowerPoint Presentation

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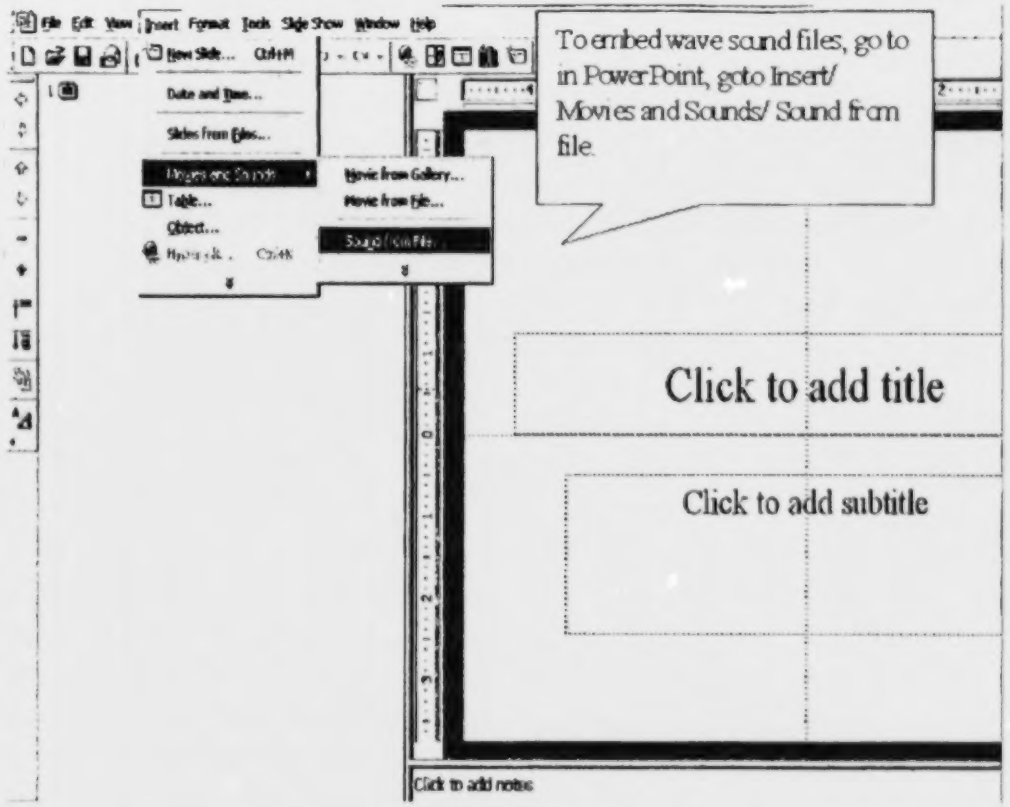
To embed wave sound files, go to in PowerPoint, goto Insert/ Movies and Sounds/ Sound from file.
Click to add title
Click to add subtitle
Click to add notes

Altogether, about 1 giga byte of computer storage space was needed to hold all the lecture material for my course. Ordinarily, this much material would require two full CD-ROM and could not be sent over the Internet to students with slow dial up modems in an efficient manner. However, the material was later compressed for easy streaming over the Internet at 28.8 kps or dissemination using CD-ROMs at 100 kps. Each set of slides with attached sound files was run through a compression program add-on available from Microsoft download center (at: http://www.microsoft.com/downloads/) as part of its free Windows Media download (wmtool.exe). From the Start menu in Windows, run the Windows Media .exe file. This will extract it and make it available to be included in PowerPoint as an add-on tool. Running the Windows media add-on program from the Tools menu will add a Publish to ASF feature to the Tools menu of PowerPoint 97 and later. The Publish to ASF feature will allow PowerPoint presentations to be compressed from about 1 giga byte down to 100 mega bytes for playing at 28.8 kps. The ASF files can easily be written to a CD-ROM for distribution or later loading to a server. To publish an ASF format PowerPoint presentation go to Tools and select the Publish to ASF (see Figure 5). This feature will combine embedded wave files and PowerPoint slides to produce one ASF file for each lecture.

Figure 5, Publishing ASF File from PowerPoint

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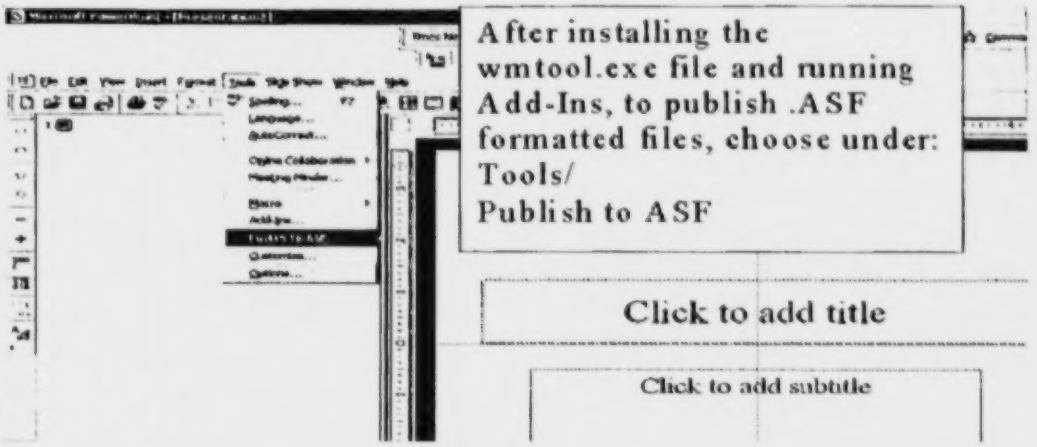
After installing the wmtool.exe file and running Add-Ins, to publish .ASF formatted files, choose under: Tools/ Publish to ASF
Click to add title
Click to add subtitle

Readers are invited to browse and play course lectures on-line by visiting the website for textbook (Krietner and Kinicki, 2001) using Microsoft Internet Explorer © at http://www.mhhe.com/business/management/kreitner5e/student/olc/ch01lecture.mhtml.

Using HTML Formatted Files

To make playback of your presentation appear the way it was created, publish the presentation to a Web folder. This will require that you gain access to a Web server account at your University. Hypertext Markup Language (HTML) formatted files (a Web page) can be streamed from a server over the Internet with very high quality. After embedding sound files in a PowerPoint presentation a HTML version can be published that will play the narration when the HTML document is accessed over the Internet. The sound files and PowerPoint presentation are not combined into a single file, as happens when publishing ASF files; instead all files will be saved in a single subdirectory on to a dedicated server account for streaming over the Internet. To publish a presentation as a Hypertext Markup Language (HTML) to the Web, from the File menu, Save as Web Page to the appropriate server directory. This will place a copy of the presentation in Hypertext Markup Language (HTML) format (a Web page) on the Internet. Figure 5 displays a HTML lecture. Note the easy to use navigation bar on the right side of the screen. Students can use it to go back and forth to individual slides.

Figure 5, HTML PowerPoint Lecture

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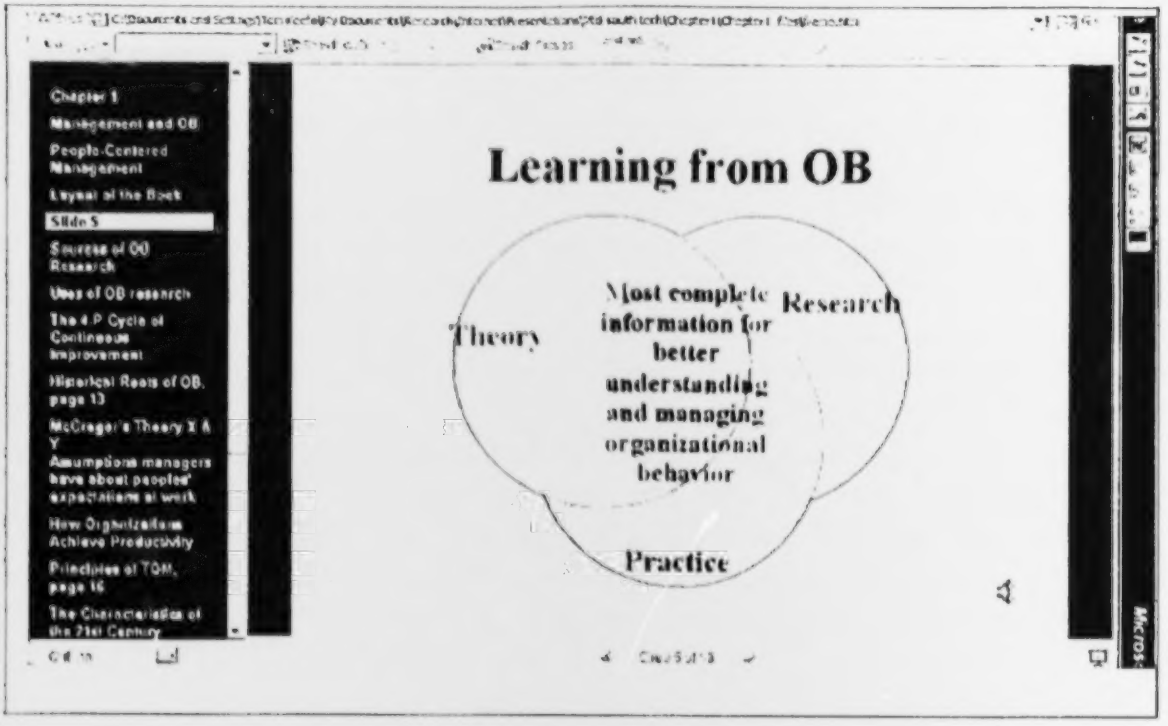
Chapter 1
Management and OB
People-Centered Management
Layout of the Book
Slide 5
Sources of OB Research
Uses of OB research
The 4 P Cycle of Continuous Improvement
Historical Roots of OB, page 13
McGregor's Theory X & Y
Assumptions managers have about peoples' expectations at work
How Organizations Achieve Productivity
Principles of TQM, page 16
The Characteristics of the 21st Century
Learning from OB
Theory
Most complete information for better understanding and managing organizational behavior
Research
Practice

The command is flexible. It allows you to publish copies of the same presentation to different locations. Your Internet publication can be a complete presentation, a custom show, a single slide, or a range of slides. You can choose from a variety of browser formats to make your presentation available in, including Microsoft Internet Explorer 3.0 or Netscape Navigator 3.0.

Once you have published to the server, to provide students with access will require a link from a Web page to the HTML document. By clicking on the link, students will be taken to the presentation. Many features are supported in HTML presentations including: embedded sound files and videos, hyper-links to other documents, as well as transitions, swipes. Anyone who is thinking about creating a Web presentation should contact his or her system administrator to ask for permission before publishing. As I mentioned earlier, creating HTML documents in this way requires considerable disk space. A 20 – 30 minute presentation can easily occupy 50 - 100 mega bytes of server space, and lectures for a semester can easily require 2,000 – 4,000 mega bytes (1000 mega bytes equal 1 giga byte). As reference, the same 50-mega byte HTML presentation would be only about 5 mega bytes as an ASF presentation.

Conclusions

The Internet does offer unparalleled convenience and flexibility. Internet instruction versus face-to-face instruction should not be looked at as a tradeoff between utilitarian concerns and teaching effectiveness. Technology such as PowerPoint enables any instructor with just a minimum of expertise to tap the Internet as a means for distributing lectures. In a hybrid course, an instructor may use the flexibility of the Internet to its best advantage. The Internet's greatest contribution to education may be as a tool for experimentation and innovation to improve teaching and learning.

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Eighth Annual
Mid-South Instructional Technology Conference
Teaching, Learning, & Technology
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March 30-April 1, 2003

2003 Conference Proceedings

Making Your Blackboard Courses Talk!

By: Tim M. Burcham
Track 2 - Innovation and Future Implementation in Instructional Technology
Interest: Faculty :: Lecture/Presentation :: Level: Intermediate

Abstract

The use of Blackboard and WebCT have greatly enhanced the ability of instructors to deliver educational content to students. The use of slides and other graphical software has improved the ability to deliver quality content to users. However, slides and other static web-based educational media, sometimes fails to capture the knowledgebase of the instructor, e.g., the verbal commentary associated with classroom lectures. This presentation will show you have to deliver good quality audio/video lectures to your online students using relatively inexpensive A/V software and your standard Blackboard interface.

Proceeding

Introduction*

Today, many faculty are proficient in the use of Microsoft PowerPoint presentation software (or a similar product) for developing lecture outlines, visualizations, and related class materials. Course management systems (CMS), such as Blackboard and WebCT, provide a tremendous platform for faculty to upload and distribute Web-based educational materials. The distinction of Web-based materials and standard digital media is blurring, e.g., most software is capable of outputting to a Web-based format.

Unfortunately, PowerPoint presentations remain basically static, e.g., the student flips through the slides gleaning information without the benefit of the instructor's verbal comments on the topics being presented. This severely limits the conveyance of knowledge from the instructor to the student. In this format, none of instructor's anecdotal experiences can be conveyed, unless they are expressly outlined in the presentation.

If Web-based instructional presentations included the instructor's verbal lecture comments, a "static" slide show would become a "dynamic" presentation, capturing all of the instructor's emotion, tempo, and anecdotal information. To understand how powerful the human voice is, we need look no further than standard radio broadcast. For years, the human voice has captivated us, entertained us, and conveyed vital information through newscast. That medium is still viable today, because the human voice conveys more than words, it conveys all of the human emotions and passions.

Today, software and hardware are available that allow the instructor to include the "verbal lecture" synchronously with the electronic presentation. Standard streaming media formats such as RealPlayer,

Windows Media Player, and Flash all allow audio/video presentations to be conveyed with minimal computer skills. Software packages such as TechSmith's Camtasia, Macromedia's Breeze, and Impatica, Inc.'s Impatica allow the instructor to record audio lecture comments synchronously or asynchronously to an electronic presentation. For instructors of "online courses," these tools represent a breakthrough conduit for knowledge transfer through the World Wide Web.

Purpose

This paper serves as a primer for developing audio-enhanced presentations using Camtasia Studio v 1.0.1 (TechSmith, Inc.).

Types of Production Programs

When choosing a software package for adding audio content to PowerPoint slides, there are two basic types of software that can accomplish this task. For our purposes, these are defined as screen capture utilities (SCU) and presentation media converters (PMC). Examples of SCUs are: Camtasia Studio v 1.0 (TechSmtih, Inc.) and CaptureEze Pro Screen Capture 8.08 (Application Techniques, Inc.). Examples of PMCs are: Breeze (Macromedia, Inc.) and Impatica (Impatica, Inc.).

Presentation Media Converters (PMCs)

These software programs allow the user to convert presentations in PowerPoint to a Web-based streaming compatible format. For example, Impatica allows the user to convert any PowerPoint presentation, including any associated recorded audio, to a Web-based streaming format with up to 95 percent reduction in base file size. Impatica offers converters for PowerPoint and Macromedia's Director. These are input specific, i.e., one must purchase Impatica for PowerPoint or Impatica for Director. These software packages are an excellent choice if the majority of one's presentation materials are in PowerPoint. The primary weakness of this type of product is their one-dimensional nature, e.g., you can convert PowerPoint exclusively. If you want to demonstrate something that isn't conducive to incorporation into PowerPoint, this type of product may not be your best choice.

Screen Capture Utilities (SCUs)

Screen capture utilities (SCUs) do exactly what the name implies. They capture exactly what is displayed on the computer's video screen. Products such as Camtasia, allow the instructor to record real-time audio during the screen capture. This type of software is ideal for developing video help files. While these programs have enjoyed most of their success in recording short help clips (5 minutes or less), Camtasia will allow recording sessions up to about 20 minutes in length (length may vary due to frame capture rate, etc.). This means that it can be used to create audio enhanced lecture materials. Unlike the PMCs, the SCUs are equally at home recording Microsoft Excel, AutoCad, Web browsers or any other application. Anything that is displayed on the screen is captured in the video. This allows the instructor to incorporate information from a variety of sources. For example, the instructor may begin the lecture using PowerPoint slides; switch to a real-time example in Microsoft Excel; then back to the PowerPoint. By incorporating digital ink software (software that displays hand written text on the computer monitor), complex mathematical equations, chemical formulations, or proper pen strokes for constructing a letter in the alphabet can be recorded. With Camtasia Studio, the instructor can also synchronously record verbal comments during the video capture sequence. The primary limitation of this type of software is complexity in mastering the various aspects required to record, compress, and mount presentations, i.e., the learning curve is steeper than PMCs.

Making an Audio/Video (AV) Presentation with Camtasia

Camtasia Studio is a video screen recording studio made up of five applications that let you record, edit and share videos of activity on your Windows screen. The five applications in studio include:

- **Camtasia Recorder**

Camtasia Recorder is a screencam that records all activity - including narration - on your Windows PC screen. Camtasia Recorder records your screen videos as Audio Visual Interleaved (AVI) files.

- **Camtasia Producer**
  Edit your AVIs with Camtasia Producer. Videos can be produced in Flash (SWF), Windows Media, RealMedia, QuickTime and other formats.
- **Camtasia Effects**
  Add captions, arrows and graphics to your AVIs with Camtasia Effects.
- **Camtasia MenuMaker**
  Create custom menus for distributing your videos and related materials with Camtasia MenuMaker.
- **Camtasia Player**
  Preview Camtasia Studio videos and share them in AVI format with Camtasia Player.

This paper will limit discussion to Camtasia Recorder and Producer. These are the primary components necessary for producing audio-enhanced video lectures.

Camtasia Recorder

Camtasia Recorder is basically a screencam that records all activity, including audio narration. Figure 1 shows the opening Camtasia Recorder screen. The user can define four different capture modes that include: screen (capture the entire screen), window (capture the active window), region (capture a user defined zone by dragging a rectangular zone with the mouse), and fixed region. For the fixed region option, the user can "select" the capture area by dragging a highlighted rectangular band around the zone to be recorded or define a specific width and height for the capture area, e.g., 640 x 480 pixels.

The user can adjust microphone and volume setting in the Tools – Options menu. The default audio recording format is PCM at 22.05 kHz, 16-bit, mono. Other audio formats are available; however, TechSmith recommends the default settings for optimum recording quality and minimal file size. Other settings included in the Tools – Options menu include File, Hotkeys, Live, and Program. The "File" tab allows the user to select the Output Folder, as well as defining a Temporary File Folder. The "Hotkeys" tab allows the user to select which keys are programmed for Record/Pause, Stop, and Screendraw commands. The "Live" tab allows the user to select the capture frame rate for live Internet broadcast. Finally, the "Program" tab allows the user to select a multitude of "Capture Options" to suit user preferences.

The microphone icon toggles the microphone input on and off. In addition, Camtasia records simulated keystroke and mouse button sounds, if the appropriate icons are toggled. During the recording process the user can choose whether to have mouse movements and mouse clicks highlighted.

To begin a recording session the user first defines the area of the screen to capture by clicking the down-arrow next to the record button. The Fixed Region mode allows excellent versatility. By sizing applications to fit inside the Fixed Region recording window prior to beginning the session, multiple software packages can be recorded simply by toggling from one application to another. For example, one may be recording a lecture from PowerPoint that refers to an Excel spreadsheet. By simply pressing F9 to pause the recording, the user can then toggle to the Microsoft Excel application window that is layered behind the PowerPoint application window. Once the Excel application window is properly framed in the capture zone, the F9 key is pressed to continue the recording process. Alternatively, the Fixed Region screen capture rectangle can be moved to any area of the screen, while recording or paused. This provides tremendous versatility to the instructor, as they are free to switch between various applications during any given lecture recording session. Switching between applications can be repeated as many times as needed; however, the recording process is serial, e.g., once a recording session has began, it cannot be reversed during the session. Any edits (audio or video) must be done after the recording session is completed (post processed). Thus, it behooves the instructor to have lecture comments organized prior to the recording session. A key factor here is the "Pause" key F9. The instructor can pause the recording process at anytime. For instance, after recording lecture comments on a given PowerPoint slide, the instructor can "Pause" the recording process, look at the next slide, compose the lecture comments, and then proceed with the recording by pressing F9 again. Once the instructor becomes accustomed to the limitations imposed by serial recording sessions and accepts that verbal

mistakes will happen, the recording process becomes second nature.

To end a recording session (audio and video), press the F10 key to "Stop" the recording. Camtasia will ask the user for a filename for the newly created file. These files are stored in Audio Visual Interleaved (AVI) format. This format can be thought of as the "master copy," e.g., this is the master file from which all other copies will be made. The AVI format is uncompressed, and as such, tends to be very large. For example, a typical 15 minute lecture using PowerPoint slides with audio commentary may have a file size of 40 MB or more. This brings the user to the next step in the process, namely compressing the AVI file with Camtasia Producer.

Camtasia Producer

Once an AVI file has been created, the next step is to output the AVI file in a standard compressed format suitable for streaming. Camtasia can output files in the following formats: RealMedia streaming media file (*.rm), WindowsMedia streaming media file (*.wmv), Macromedia's Flash (*.swf), Camtasia for RealPlayer (*.camv), and Apple's Quicktime Movie (*.mov).

Each format has advantages and disadvantages. For example, WindowsMedia (*.wmv) files are very compact with excellent audio quality; however, this format is not conducive to capturing with photography, i.e., it works best when recording standard software packages with limited color pallets, such as Excel and PowerPoint. If the AVI contains photography or other images with large color pallets, the output may result in a blank screen during playback. This can be overcome by turning the hardware acceleration off in the Windows Media Player; however, this task is troublesome for the end user. Using Camtasia Producer to output Macromedia's Flash format, on the other hand, does not present problems when converting media containing photos. The audio quality and file size will be somewhat larger than a similar file output in the WindowsMedia format. When outputting in RealMedia format, three (3) files are created: an audio file (*.au), a RealMedia file (*.rm), and an *.smil file that is used to link the audio and video files during playback. Unless the instructor is mounting these files on a Real server and linking the address of the streaming media in the Course Management System, this can be cumbersome, particularly when compared to Flash and WindowsMedia formats which create a single output file.

Figure 2 shows the Camtasia Producer application window. To begin the production process, one simply drags the AVI file onto the Storyboard. Next, select File – Produce Movie. This will bring up the Produce movie application window as shown in
Figure 3. Click the pull down menu under Movie File Format. Then, select the Movie File Name in the dialog box or use the "browse" folders option to select the location for the output file. Finally, click the Options button located at the bottom of the Produce Movie application window. This will bring up the Production Options application window as shown in Figure 4. Options for color pallet, frame rate, audio format, audio attributes, and playback controls are selected in this window. This screen is very important since the selections chosen here will have a dramatic effect on the file size of the output file. Using 16-bit color versus 32-bit color will generally produce smaller files. However, if photography is contained in the captured AVI file, 32-bit color may be necessary. If your PowerPoint slides feature gradient backgrounds (black to blue, etc.); change them to a monotone background color. This will reduce the output file size considerably (up to a 50% file size reduction depending on the material being captured). The Audio Attributes play a large role in output file size, particularly when outputting in Flash format. In general, use as low a frequency as possible to produce acceptable audio quality. Voice narration is generally acceptable using mono output settings. Selecting stereo will typically double the output file size. In general, the MP3 Audio Format with 11.025kHz, Mono, 8kbits/sec or 11.025kHz, mono, 16kbits/sec produces acceptable audio output.

Once all of the Production Options have been selected, click "OK" to return to the Produce Movie application window. Click the "Produce" button to begin processing the AVI file placed on the Storyboard. Depending on the size of the captured AV file, this process may take a considerable amount of time, e.g., 5 minutes or more. When the output process completes, the "produced" file will begin playing automatically (if you selected "Preload Movie" in the Production Options application window). Play the video and determine if the video and audio quality is acceptable. If not, then produce the video again using different settings in the Production Options.

Uploading AV Lecture

The final step in the process is uploading the produced AV file to your Course Management System (Blackboard or WebCT) or Webpage. Again, the type of output files you choose will depend on whether your server has streaming output capability (Real Server, Windows Media Server, etc.). If your server has these capabilities, then contact your IT professionals for linking streaming media from your Course Management System.

Tips for Producing AV Files using Camtasia Studio

1. Select the smallest capture window possible to faithfully convey what is intended in the AV file. The more pixels you capture in the video, the larger the ultimate file size will be. Generally, screen captures with a size of 640x480 or 800x600 pixels are adequate. Remember, if you have a 1024x768 pixel display and you capture the entire screen, you are capturing 1024x768 pixels.
2. Produce a sufficient number of demo files to correctly adjust the microphone for good audio playback. Creating a 20 minute audio enhanced video only to find out that the microphone settings were too low will result in a retake. Remember, the AVI file is the master file. If it has poor audio, then any file produced from it will have even poorer audio quality. Make sure the AVI files you produce have excellent video and audio quality.
3. Once AVI files are created, experiment with the various output formats that Camtasia provides. For optimum file size reduction, choose WindowMedia (*.wmv) format. For lossless video and good audio quality choose Flash (*.swf) format. If you have a Real Server at your location, outputting in RealMedia (*.rm) may be advantageous. For the majority of the authors AV compilations, *wmv and *.swf formats are used. Both of these result in a single output file and they are both universally compatible with today's browsers (through free browser plug-ins).
4. Use a quality boom microphone for recording your voice during video capture. The clip-on microphones that often come packaged with new PCs produce poor quality audio. Headset boom microphones in the $15 to $20 dollar range produce good audio. After all, the beauty of this process is sending your voice along with the presentation.
5. In general, you can only record 20 minutes of audio/video (AV) material in one session (Flash format has a maximum 16,000 frames). This number will go down if you have the capture frame rate set higher than 1 to 3 frames per second. Experiment with the capture frame rate and production frame rate and use the lowest value that gives acceptable output. If you need one hour of lecture time, break the lecture into three 20-minute or four 15-minute segments. In Flash format, a 15 to 20 minute lecture will have a file size of about 4 to 6 MB. If your students are using 28.8Kbs Internet connections, this is the largest file size that is manageable from a download standpoint. If your students have access to computers with a T1 or DSL connection, have them download the AV lectures on that machine and burn them on a CD for later playback.
6. Incorporate a pen-based digitizer to bring handwritten lecture notes to your students. Devices such as the InkLink from Seiko Instruments and Logitech's IO Personal Digital Pen allow handwritten notes to be easily transferred to a digital environment. The author uses the InkLink, which clips onto a standard paper notepad and transfers any written information to a digital notepad. These digital notes can be saved in numerous web-friendly formats. Most importantly, Camtasia records each pen stroke (digital chalkboard) and your verbal explanation of the information being presented. These input devices are particularly well suited for describing mathematical equations. In foreign languages, the instructor can record the proper pen strokes for a particular letter or word along with the proper pronunciation.
7. Practice makes perfect. The first time you place the headset microphone on and begin recording your comments on a PowerPoint slide presentation, you will be conscious of verbal mistakes. Remember, the F9 key allows you to "pause" between slides. Use the F9 often. The end user will not know how many times the presentation was "paused," e.g., it will sound seamless when played back. Relax and accept that you will make some mistakes during a recording session. These mistakes occur in the normal classroom lecture environment, so they will occur during a typical recording session. When recording a presentation, imagine that you are lecturing in a standard multimedia classroom environment. Anticipate questions that might arise and address as many of these questions as possible in the presentation narration. Remember, you have more than one shot to answer questions using this technology.

8. Have fun! After becoming accustomed to the AV recording process, you will develop a sense of accomplishment and satisfaction that rivals your classroom experiences.

Summary

The use of audio/video screen capture utilities, such as Camtasia, provides a tremendous tool for developing educational materials that more faithfully capture the classroom experience. When these files are output in streaming formats (Real, Windows Media, Flash, etc.), they can be utilized by students with disparate bandwidth connections. Today's software packages allow the instructor to capture both visual and auditory components. The goal of any teacher is to convey knowledge. The ability to share anecdotal information with each lecture segment extends the learning experience and provides a better conduit of knowledge transfer.

* Disclaimer: The mention of product names does not imply an endorsement by the University of Tennessee at Martin or the authors of this paper. Product names are included for identification and demonstration only.

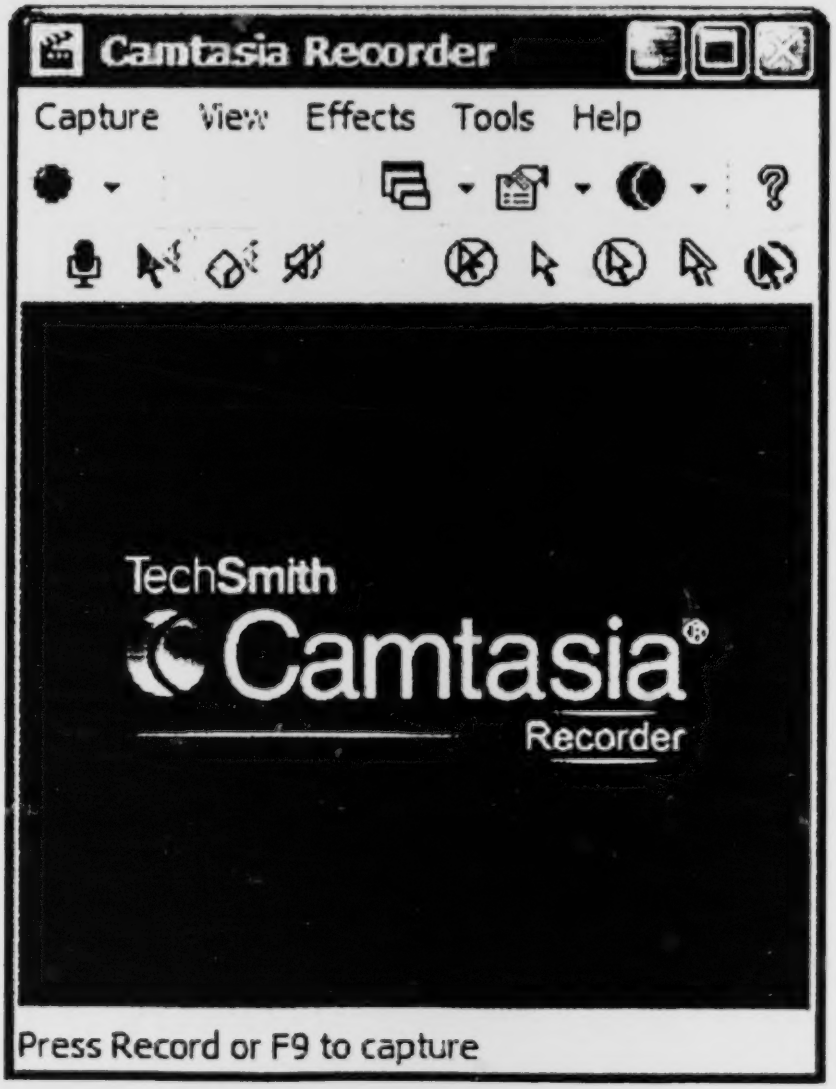

Figure 1. Camtasia Recorder application window.

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Figure 1. Camtasia Recorder application window.

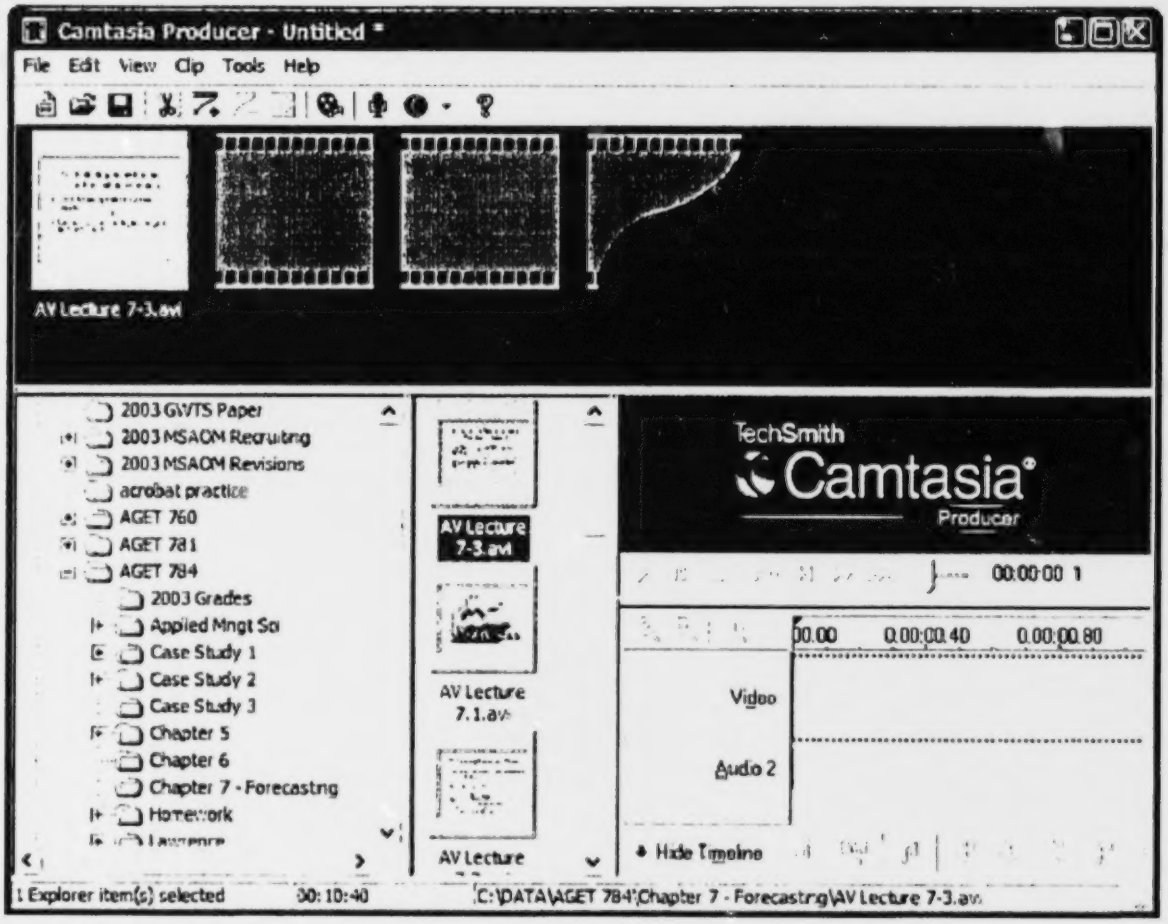

Figure 2. Camtasia Producer application window.

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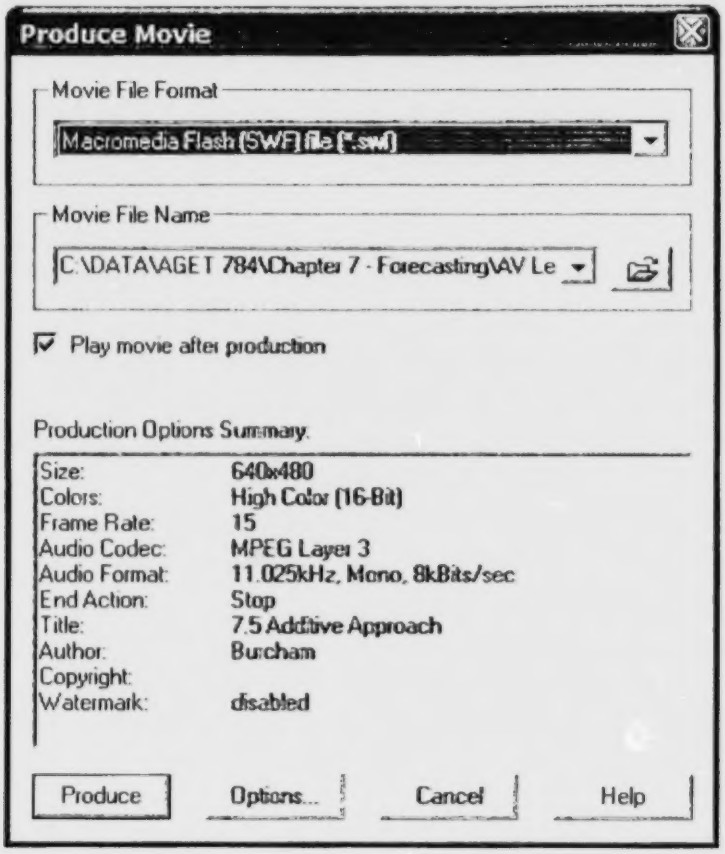

Figure 3. Camtasia Producer - Produce Movie application window.

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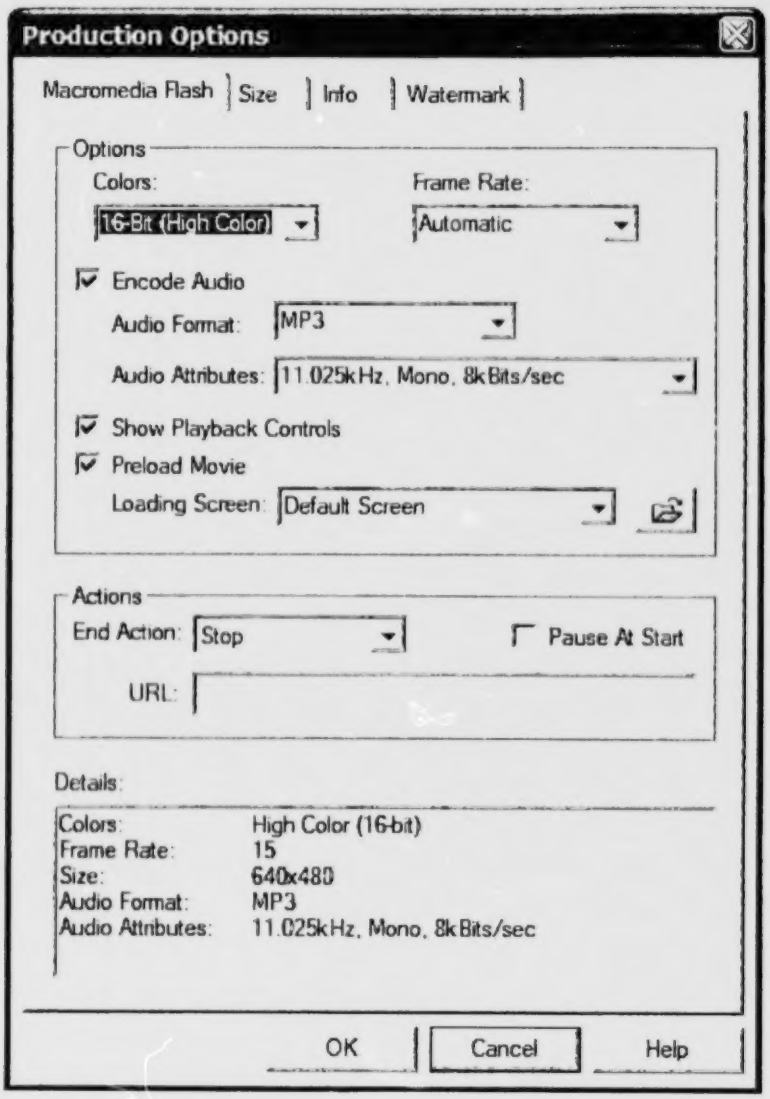

Figure 4. Camtasia Producer – Produce Movie – Production Options application window.

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2003 Conference Proceedings

My Beloved Blackboard: Teacher Empowerment for Students' Success

By: Elizabeth Caplan-Carbin
Track 2 - Innovation and Future Implementation in Instructional Technology
Interest: Faculty :: Lecture/Presentation :: Level: All

Abstract

Announcements, assignments, exercises, and animated instructional presentations - Blackboard brings it all to everyone, any time, anywhere. This paper describes a university German teacher's experience getting organized and getting it all "out there" through the file transfer capabilites of the powerful Internet tool. Overwhelm learners with input, yet keep it all under control through the adaptable organizational menus. Give them an abundance of learning avenues, while keeping their objectives specific and clear.

Proceeding

Announcements, assignments, exercises, and animated instructional presentations - Blackboard brings it all to everyone, any time, anywhere. This paper describes a university German teacher's experience getting organized and getting it all "out there" through the file transfer capabilities of the powerful Internet tool. Overwhelm learners with input, yet keep it all under control through the adaptable organizational menus. Give them an abundance of learning avenues, while keeping their objectives specific and clear.

Blackboard has become an invaluable tool for teaching with technology, for exploiting the assets of the Internet, and for making materials accessible to an expandingly diverse learning community. The use of sound, video, authentic texts, photos and other graphics, can be brought into a classroom during instruction or directly into a student's dormroom at midnight, with minimal fuss or

concern about platforms, hardware, or even software issues. Multimedia provides multiple avenues for learners to interact with instructional material: reading, listening, playing, exploring. The variety of venue; text, audio, graphic, and video, caters to the variety of learning preferences, and the quantity of content, organized into both layers and linear increments, provides avenues for top-down and bottom-up conceptual learning, for explicit instruction, as well as inductive discovery. Educational treasures found on the Internet are easily gathered and incorporated into the course syllabus. Your own documents, presentations, and programs can be uploaded to Blackboard for retrieval by your students or by you at any time, any place. Your teaching tools and course materials are always available to you and to whomever you want, whenever you want. Accessibility to materials is always at the administrator's, that is your, discretion.

Two aspects of Blackboard make it an extraordinary tool for ordinary teachers. First, the files are all kept on Blackboard servers. That means that it is not necessary to own a computer to use Blackboard. The course website can be administered from any computer terminal to the Internet, such as at the library, or in an Internet café, at a friend's, or while away at a conference. The second feature, invaluable to teachers, is that the entire course can be archived for future use. Each element that the teacher inputs into the course can be delineated for "timed release". This means that the course can be made to "build" in chapter or unit increments, just as it did as you built it the first time. Everything placed onto Blackboard can be edited, removed or simply hidden until you want it to appear. Blackboard can serve as a virtual "file cabinet" for your course materials and ideas, while making it easier for you to share and disseminate them.

Teacher Empowerment

I have been empowered in my job as a teacher because I always have a vast store of knowledge and answers at my fingertips. It is not incumbent upon me, and my little memory bank, to know all there is to know, or to have the perfect answer to every question, because I know how to find the answers.

As a non-native speaking teacher of German, the use of the Internet in classes has given me superb confidence that I am providing students with authentic input for their German language acquisition. I can bring them sound samples and textual examples from any peripheral field or topic.

For example, after September 11, 2001, our interests naturally shifted from the curriculum at hand, but the Internet allowed a blending of German and current affairs. While no one felt motivated to learn German in those first days, they were indeed interested in the news coming out of Germany at that time. By reading German news sites, we all learned information that only later was presented by American media. We even continued to work with aspects of the story that were only pursued through the German media.

In this case, the Internet empowered me by enabling me to switch gears and adopt a new and novel plan to accomplish the same goals I had started out with. I

never stopped teaching German, I just started using a different "text". Most recently the Internet has empowered me to continue teaching my discipline, while orienting more toward the students own concerns, and thereby, more toward immediate relevancy. Grammar lessons embedded within current German news articles are more relevant because the riddles to be solved by sorting out the language codes are the answers to the students' own questions. For example, "What is Germany's foreign policy toward the U.S.?" The Internet empowers the teacher by providing the wealth of the world's knowledge. Blackboard empowers the teacher by providing a sort of portal through which to narrow the breadth of information.

Organization

Organization is perhaps the most important boon that Blackboard adds to enhance a student's chance at success. The disorganized student, who misplaces handouts, leaves books in the car, forgets where the syllabus is, or when the assignments are due, etc. is aided immensely by the fact that the syllabus, assignments, and handouts are always available for viewing and printing.

You can be assured that your students can always find the course homepage. Every student enrolled in your class has been given the necessary ID and password to enter the university Blackboard system. They need remember only the simplest of URLs to find their way. For example, students of UT-Martin can type in www.utm.edu, and there is a handy link directly to Blackboard. If they are enrolled in a course, there will be a link to that course on their Blackboard homepage.

Its easy to access your Blackboard homepage from computers anywhere in the world. No student ever has to miss a handout or an assignment, because they weren't in class the day it was assigned, or because they lost their book bag.

A blackboard coursepage has customizable buttons that lead students to major content areas, such as the course syllabus, assignments, faculty information, and announcements.

Announcements can help to draw attention to newly posted content. They are automatically posted at the front of the coursepage, and they appear on the student's own blackboard homepage, that is, before they enter any specific coursepage. While the menu buttons can be changed, thereby changing the organization of the coursepage, there is a given range of content areas that are encompassed within a Blackboard coursepage. This gives the teacher the freedom to customize the site along with focused guidelines that are helpful for getting important elements of the course online quickly.

The course options allow you to change the course settings, and rename the content areas, but your coursepage always begins with a set of logical settings from which to depart. This makes Blackboard easy to get started with, and

provides the student a large measure of consistency among Blackboard coursepages.

A Blackboard coursepage helps everyone to stay organized. Teachers can disseminate materials as soon as they are ready - no waiting for the copy machine to be repaired, for instance. Handouts and homework assignments can be posted in advance of classes, saving class time that would otherwise be spent distributing paper. Blackboard's material distribution features save time, paper, and eliminate most excuses concerning missing materials or assignments. As Loyola University's professor of music, David Swanzy (2001), notes in his list of Blackboard observations, logical navigation is essential to well designed instructional modules. Swanzy is most impressed with the simplicity of using Blackboard for "the delivery of lecture notes and traditional handouts by uploading them for student viewing or retrieval. Such use may be mastered even without a training session because of the user-friendly guidance Blackboard has provided." i.

Call it guidance or micromanagement, Blackboard does help you get a course up and running very quickly. My courses usually have a button labeled "Assignments". This was one of the limited choices available to me in setting up the course areas. I didn't have to 'remember' it, I only had to select it. By having limited choices in the instructional design, the teacher can focus on the content within each area, leaving the high level instructional design to the Blackboard programmers. The choices available still give tremendous versatility in course design. Activities can be organized into various areas that help the student decide the direction of their studies.

I've labeled a content area "Lab" which gives the students suggestions as to how to spend their time in the language lab. Here, I have provided access to websearches, quizforms, sound files, and links to video sites, such as news programs from German radio and TV.

With some success, I had been providing electronic content for language learning since 1996, through websites called "Deutsch im Netz" and "German Online Interactive" (now webgerman.com), as well as through homepages customized for each course I taught.

I had also provided animated Powerpoint presentations and original webexercises. I had created email distribution lists so that I could send all my students emails or websites the minute I thought of it. While these avenues of presentation addressed many issues of education, they were still only available to those savvy, able, and willing to access them. Savvy in terms of skill at Internet research; knowing how to find things, and "get to places" and remembering where you've been and how to get there again; knowing how to use bookmarks and history files, search engines, and online resources like dictionaries and reference sites: Able in terms of having the necessary hardware and connections to reach the resources: And willing in terms of simply putting in the effort to keep track of URL addresses and to spend time visiting, surfing, reading, interacting, and responding, etc. - in other words, willing to use the Internet for active learning.

Because they were "wrapped" in attractive novelty, Internet coursepages, interactive webexercises, and animated grammar presentations went a long way toward making the subject matter more accessible to students. By serving as a single, simple to reach, starting point, Blackboard goes farther.

Accessibility

It is no surprise that Blackboard addresses issues of accessibility so thoroughly. The software is designed and continually updated to address the points of Section 508 of the Federal Rehabilitation Act of 1998.ii This section requires all federal agencies to enable full access to the Federal government's electronic and information technology, including, but not limited to, assistive technologies for people with disabilities. The original Blackboard design architecture, as well as the updates and amendments, follow each point of Section 508 in an effort to maximize accessibility and to implement the prescriptions of the federal directive. For example, alternate text and file descriptions help support non-textual elements, such as images or sound files. The software also works with screen readers, such as JAWS for Windows, which audially "reads" the screen elements, designated by the instructor, and/or provides a printout in Braille. Blackboard developers are also partners in collaboration with several organizations dedicated to increasing Internet accessibility, such as the federal grant initiative with Utah State University and the TLT Group in a Learning Anywhere Anytime Project (LAAP), called, Web Accessibility In Mind (WebAIM), with the goal of educating instructors, administrators, and course designers on how to build accessible online learning environments. iii

With consultants and focus group studies of the Helen A. Kellar Institute for Human Disabilities, Blackboard developers collaborate with the SALT Partnership, or Standards For Accessible Learning Technologies, promoting access specifications and effective models that enable people with disabilities to have equal access to the expanding learning resources online.

Blackboard's control panel forms prompt the course administrator (you) to enter elements that meet the standard of Section 508. For example, complex graphics, such as charts, graphs, or animated images, can be accompanied by alternative titles and detailed text descriptions. Every image, Java applet, Flash file, video or audio file, plug-in, or anything else uploadable, can, and should, have an alt description. When a purely decorative graphic is used, such as an interesting horizontal line or a pointing finger, the alt description should be empty (alt-""), but not "missing." Blackboard "knows" this and automatically avoids the error when you leave the "alternative" textbox blank, thereby avoiding the unnecessary increase in the time it takes to listen to a page using a screen reader.

The technology helps average learners to overcome typical student handicaps: lack of initiative, effort, efficacy, interest, and organization. In a study concerned with "building a supportive online instructional environment for reluctant, apprehensive, and/or under-prepared learners," Dr. Kathryn Jansak, feels that "encouraging reliance on [the Blackboard web] site eases student reluctance to engage the medium and work effectively within it."iv Thus it goes a long way

toward student success by increasing their access to information. Blackboard also increases students' ability to deliver their work to the instructor - giving the instructor better access to students. Students can pose questions through the discussion boards, drop their work off in the digital dropbox, or attach it to an email right through the Blackboard portal. Blackboard quizzes and surveys are even graded and recorded in the online gradebook automatically.

The gradebook is a major tool of empowerment for me. It helps me to keep class time on the teaching task and to avoid spending time on administrative concerns. Students are always apprised of their grades and of what assignments they are missing, or of how their attendance scores are dwindling. They can even see how their scores stack up against the class average, which sometimes sparks a competitive motivation. Having constant access to their grades helps students to succeed because they are kept informed of their progress and reminded of the requirements for success.

Having clear objectives and access to schedules, assignments, handouts, and help empowers the student with the organizational structure to succeed. Target language input made available through a broad variety of avenues assists a broader variety of learning style preferences. The Blackboard platform makes it easier than ever to disseminate multimedia, and multimedia makes it easier to bring instructional content to the attention of students.

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i Swanzy, D. (2001). Independent instructional delivery vs. e-learning platforms with initial observations regarding Blackboard 5. http://www.uniqware.com/ResearchCenter/prod/prod15.html

ii Checklist for Section 508 federal accessibility standards. http://www.webaim.org/standards/508/checklist

iii http://www.webaim.org

iv Janek, K. (2000). Building a supportive online instructional environment for reluctant, apprehensive, and/or under-prepared learners. Paper presented at MTSU IT Conference. http://www.mtsu.edu/~itconf/proceed00/jansak.htm

See also: Carton, S. et al. (2002). Blackboard User Analysis. A qualitative study by the University of Maryland - Baltimore http://www.umbc.edu/oit/newmedia/blackboard/usability/umbcbbstudy.pdf

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The Best of Two Worlds: Combining ITV and Web Quests to Strengthen Distance Learning

By: Charmaine Mosby
Track 2 - Innovation and Future Implementation in Instructional Technology
Interest: Faculty :: Lecture/Presentation :: Level: Intermediate

Abstract

Increasing emphasis upon Distance Learning demands creative approaches for course delivery, preferably combining advantages of interactive television and the web. My response was to set up a graduate seminar as an experimental hybrid course: roughly 60% face-to-face and 40% web course (web quest format). This presentation outlines the process of course development, explains my choices, and uses this seminar to illustrate the efficiency of hybrid courses.

Proceeding

The professionalism of twenty-first century teacher preparation is continually growing: teacher standards are becoming more rigorous, methods of delivery are becoming more diversified, and even the terminology is becoming more precise. In fact, a person who took the National Teachers Exam forty years ago would find a number of unfamiliar items on this year's PRAXIS. Despite these obvious and significant changes, university educators' basic goals remain the same:

- to help public school teachers prepare students to live and work in today's electronic world (ISTE,2000),
- to make education widely accessible, both physically and in terms of learning styles,
- to make the preparation and continued training of teachers as cost effective

as possible without sacrificing the quality of instruction or the degree of student involvement in the learning process.

Ideally, university faculty can best assist their students by modeling the kinds of creative instruction these students will need to develop in the classroom (Metze, 2002).

With the increasing emphasis upon teacher accountability, most states are demanding that both current and future teachers meet a wide-ranging set of professional standards that delineate requirements in areas from community involvement to use of technology (New Teacher Standards, 1999). These teachers are also expected to hone their skills in graduate classes taken in the summer and during the school terms. In states such as Kentucky, where many teachers live two or more hours' drive from a university, evening graduate classes once were difficult to schedule. For these students, the answer has been distance learning.

Historically there have been three categories or stages of distance learning. Twenty-five years ago, universities sent graduate faculty to several satellite locations, usually forty to seventy-five miles from the main campus. This delivery mode was time-consuming for the faculty and expensive for the university. More recently, though, interactive television (ITV) has made faculty travel less necessary. Problems still exist, however. While less time-consuming than a seventy-five mile drive, preparation for these classes requires significantly more time than the faculty member would be likely to spend preparing for a face-to-face course. In addition to the study and grading required in teaching any course, the instructor must devise creative ways to elicit discussion and establish a sense of community with the students at distant sites. Moreover, even though most ITV instructors soon become quite proficient in these areas, the cost of setting up and maintaining a site (more than $60,000 just to set up one site) necessarily limits their number and thus the number of students who can benefit from them. The third delivery mode, online instruction, has not proven to be a panacea either. Innovative instructors have modeled the kinds of classroom activities that public school teachers may develop for their students, but the lack of direct contact can result in mis-communications that leave students confused and intimidated by the technology.

Obviously today's distance learning requires faculty and administrators to address the problem of delivery modes without reducing their emphasis upon educators' three traditional goals. The best solution seems to be to blend personal contact, interactive technology, and online platforms, but implementing this solution will require both faculty and administrators to exert their best problem-solving skills and use every type of support available.

One step in this process was a graduate English course developed at Western Kentucky University during the July summer session in 2002. For five weeks, students in Bowling Green, Elizabethtown, and Owensboro (linked by ITV) read and researched Local Color and Regionalism in American Literature. The class, which included approximately sixty per cent personal contact and forty per cent

online work, was essentially a self-selected group of teachers and future teachers, whose level of computer skills ranged from proficiency to unfamiliarity. Meeting the class in standard formats allowed the instructor to emphasize major concepts and provide immediate answers; students also were reassured that the instructor was available in person and by ITV as well as by e-mail. Because the overall format was experimental, the designated class was a summer course taken primarily by teachers, for whom the web components would model the kind of instruction mandated by state technology standards. Students were made aware of the course design before they registered (cf. Appendix A), and they were assured that they would not be graded on their computer skills.

The web quest segment consisted of four tasks ranging from knowledge of the material to analysis and application of the materials and literary techniques discussed. Three of the four were individual tasks, but the most extensive was a group assignment. Scaffolding was provided in the form of Internet links and supplemental materials, including links to online versions of each story discussed. The grade in the course was based in part upon the students' class participation, but in large measure upon their completion of the four assigned tasks. Using the BlackBoard delivery system meant that all work delivered through the system had to be sent in MSWord; therefore, the students were required to create their web pages only in story board format, though several who had web access developed and posted actual pages.

Task One (due at the end of the course) was a chart or list identifying the characteristics of Local Color and Regionalism as defined by the individual student and based upon the materials studied in this course. This task represented 25% of the student's grade in the course.

Task Two (due in Week Three) involved a choice of projects:

- an annotated web-liography of two or more writers in one school of Local Color /or/ Regionalism [in MLA format with brief descriptive title for the site]
- material (in MSWord) ready for transfer to a web page [but not submitted in HTML] that might be used in the classroom to teach a single writer, possibly one of those studied in this course. The web page design was not stipulated; so the students were free to emphasize a variety of learning styles.

This task represented 20% of the course grade.

Task Three (due in Week Four) was an analytical essay pointing out influences of Local Color and Regionalism in a single work by a contemporary writer. The contemporary short story could be the work of a young adult or popular culture writer. This task accounted for 15% of the grade in the course.

Task Four was the group project. Each group (usually 4-5 people) developed a web quest suitable for classroom use. As part of this process, the group

- explored web quest theory and formats, choosing one format
- decided upon the amount of "scaffolding" (support material)—a decision based on the literary sophistication and computer skills of the intended users [A Web Quest for a high school class probably requires more and different types of scaffolding than that supplied in this course.]
- determined the specific tasks to be completed by the students [The number and complexity depends on the time allotted, the content, the learning goals, and the grade level of the students.]
- set up the format (based upon the model or models chosen) with learning goals and tasks
- submitted the completed group project with individual roles indicated. [The task instructions suggested that each section carry a concluding byline, though the participants' roles could be listed at either the beginning or the end. Participants were also asked to include their e-mail addresses in the bylines.]

This task accounted for 40% of the grade in the course.

In addition to the extensive explanatory and content links, the students were given a detailed description of the process to be followed for each task (cf. Appendix B), but several major decisions about content and allocation of responsibilities were left to the groups and individuals. Grading rubrics were supplied, however.

Throughout the course, student participation was above average, and in the evaluation assignment (Week Five), feedback was unanimously positive. The individual work was excellent, and the group projects were outstanding. Even those students who initially lacked confidence in their computer skills said they now felt comfortable using web quests and other online resources in their classrooms. Several students were so intrigued with the instructional possibilities of web pages and web quests that they e-mailed the instructor copies of the material they developed for their fall semester classes. The logical conclusion was that the blended mode of delivery had enhanced the learning process.

Moreover, this experiment seemed to demonstrate that the blended course could be successful using only half the ITV resources being used in traditional courses. Thus, the carefully constructed blended course has been shown to achieve the educator's three basic goals: quality learning, accessibility, and cost effectiveness.

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APPENDIX A

English 596

Local Color and Regionalism

Developed by Dr. Charmaine Allmon Mosby

Overview

In the late nineteenth and twentieth centuries specific types of short fiction arose in various places throughout the United States. This short fiction reflected the characteristics and interests of specific groups at specific times and places. In the late nineteenth century this movement was known as local color, and it is usually seen as a precursor of literary realism. In the twentieth century this trend has continued with added elements derived from literary movements such as romanticism, naturalism, and minimalism This WebQuest examines the specific types of local color and regionalism. It directs learners to investigate the types (or "schools") of local color, demonstrate each one's link to a specific time and place, and trace the influence on so-called "mainstream" American literature.

Specific content area: ENG 596 Local Color and Regionalism in American Literature

Kentucky Learning Goals and Academic Expectations: 1.16; 2.19; 1.10; 1.11; 1.12; 2.25; 2.26; 2.24; 2.23; 6.1; 6.2

Background

After the American Civil War, mass circulation magazines flourished, especially in the Northeast, creating a market for short fiction. Attempting to satisfy their readers' curiosity about quaint language and customs in various remote sections of the newly reunited nation, editors sought out short story writers in locales that those readers might consider exotic or at least unusual. The initial result was the movement usually referred to as Local Color, which arose primarily in New England, the plantation South, the Creole South, the Southern Mountains, and Gold-Rush California. While these so-call "schools" of Local Color varied in physical details such as setting and diction, generally the purpose and tone were very similar. Eventually, as readers began to tire of these stories, some 20th century writers adapted many of the same techniques for purposes of social history and social criticism, discussing specific regional and even national issues. By the Twenties and Thirties, however, American readers were again becoming

interested in reading about life in small communities, and regionalism became a significant literary force. Fed by regional self-awareness, this movement has continued to grow in scope and influence, expanding the old Local Color schools to include areas as geographically and culturally diverse as the Appalachian South; the prairie and upper Midwest; the rural and small-town South; frontier areas such as the Southwest and Alaska; and even established ethnic and cultural communities in urban America. In short, the diversity of this movement has continued to revitalize American short fiction.

Course Requirements

During this 5-week session, the class will meet as a group at least once a week to discuss specific works by writers such as George Washington Cable, Charles Chesnutt, Mary Noailles Murfree (Charles Egbert Craddock), Jesse Stuart, Sarah Orne Jewett, Bret Harte, Eudora Welty, and Erskine Caldwell. All of the assigned works are available as online texts, and links to them are provided. In these sessions we will share information, answer questions, and discuss/solve problems that arise as students work through the tasks in the model English 596 Web Quest. These graduate students will be expected individually to complete three assignments in the model web quest and then, working in groups, to create similar web quests that explore and characteristics, representative writers, and influence of a specific Local Color school. In the course of this exercise, these teachers and future teachers will be expected to identify useful resources and create a series of activities that will guide their students in challenging research and learning activities. Scaffolding such as that provided in the model English 596 Web Quest should be provided. Because everyone is to some extent a novice in the construction of web quests, support and advice will be provided.

Significance of the Project

Today's students are products of the electronic age. While it is essential to introduce them to print sources for their research, it is also important to show them that research in the 21st century must also incorporate information gained from Internet sources. In the course of this instruction, these web quests should provide a framework for establishing the reliability of information gleaned from any kind of source.

Potential Problems

Because some schools of literary criticism have tended to dismiss Local Color and Regionalism as chauvinistic or even provincial, students' web quests should establish the importance of geographical and cultural factors in shaping literature generally and especially the group being considered. The major questions to be answered are how a specific work is affected/strengthened by its ties to a distinct region and how that regional "school" has influenced the development of mainstream American literature. The individual student's critical stance obviously will affect his/her assessment of specific works, and the group may choose to build a consensus or to present a range of interpretations carefully linked to

specific critical theories. It is essential to remember, however, that these quests are being created for high school students, not other graduate classes.

Questions to Be Addressed

- When was the heyday of each of these movements?
- Who were these writers?
- Where were most of these writers living and writing?
- What specific themes and techniques did they use?
- Who read these stories and why?
- How did these movements influence the mainstream of American literature?

Grades in the Course

The grade in the course will be based upon the students' completion of the four assigned tasks (see Assignment section).

Task One (due at the end of the course) is a chart or list identifying the characteristics of Local Color and Regionalism as defined by the individual student and based upon the materials studied in this course. This task represents 25% of the student's grade in the course.

Task Two (due in Week Three) involves a choice of projects:

- a web-liography of two or more writers in one school of Local Color /or/ Regionalism [in MLA format with brief descriptive title for the site]
- material (in MSWord) ready for transfer to a web page [but not in HTML, please] you might use in the classroom to teach a single writer, possibly one of those studied in this course.

This task represents 20% of the course grade.

Task Three (due in Week Four) is an analytical essay pointing out influences of Local Color and Regionalism in a single work by a contemporary writer. The contemporary short story may be the work of a young adult or popular culture writer. This task will account for 15% of the grade in the course.

Task Four is a group project. Each group (probably 4-5 people) will create a web quest suitable for classroom use. As part of this process, the group will

- explore web quest theory and formats, choosing one
- decide upon the amount of so-called "scaffolding" (support material)—a decision based upon the literary sophistication and computer skills of the intended users [a Web Quest for a high school class probably will require more and different types of scaffolding than that supplied in this course.]
- determine the specific tasks to be completed by the students [The number and complexity will depend on the time allotted, the content, the learning

goals, and the grade level of the students.]
- set up the format (based upon the model or models chosen) with learning goals and tasks
- submit the completed group project with individual roles indicated. [Probably each section will carry a concluding byline, though the participants' roles may be listed at either the beginning or the end. Perhaps the participants' e-mail addresses should be included in the byline.]

This task will account for 40% of the grade in the course.

Process for Task Four

The group as a whole should decide the scope and breadth of the web quest; thus, the individual members of the group may gather some basic information about specific writers that could be included, but the finished list of writers should be a group decision. If possible, the allocation of responsibilities should also be a matter of consensus.

Within each generating group, students must assume specific roles. For example, one student might establish sources and links related to the geographical, historical, and cultural background. That student would also propose specific student tasks related to that material. Two or three other group members might focus on representative writers, reviewing specific works and developing student resources and activities. A student especially adept at working with graphics or document design might assume overall responsibility for guiding the rest of the group through that part of the activity. In addition, the group may select one person to act as an overall editor in order to maintain consistency of format. The group's project should carry the names of only those students who have successfully completed their tasks as agreed upon by the group. Any student who withdraws from the group project will be expected to complete Task Four on his/her own.

Each group's finished product should be submitted to the professor on a floppy disk or cd-rw for grading, with the eventual goal of posting on the course web site for other groups to see. The bases for grading are as follows:

- Objectives are reasonable, appropriate, and clearly stated.
- Specific writers and works are well-chosen and representative.
- Assigned tasks are challenging, creative, and relevant, with possibilities for students to exercise initiative.
- Resources are reliable, varied, and sufficient in number.
- Design is attractive, engaging, and easy to navigate.

APPENDIX B

Task Four

This task, which represents 40% of your course grade, involves participation (with a group of your peers) in the creation of a web quest based upon some of the material available to you in this course.

Guidelines for Task Four:

Each group (probably 4-5 people) will create a flowchart or "story board" of a web quest suitable for classroom use. As part of this process, the group as a whole will

- give me a list of the group members so I can set up the group apparatus [discussion board, web page, chat room] for each group
- notify me of the group's web quest subject
- allocate the responsibility for various tasks to individual group members
- explore web quest theory and formats, choosing one [see the lists of Web Quest resources]
- determine the educational goals of this web quest [including the students' actual "products"]
- decide upon the amount of so-called "scaffolding" (support material) to be included—a decision based upon the literary sophistication and computer skills of the intended users [include references to web sites you intend your students to use—actual links are not required]
- determine the specific tasks to be completed by the students [The number and complexity depend upon the time allotted, the content, the learning goals, and the grade level of the students.]
- set up the format (based upon the model or models chosen) with learning goals and tasks specifically addressed
- develop the details of the web quest links and activities
- assemble the web quest flowchart in MSWord, not HTML [The use of graphics and special effects may be indicated in the text, but again their inclusion in this document is not required. In fact, the drop box in Course Info may not accept some of them.]
- edit the finished web quest for clarity, completeness, and mechanical correctness
- submit the completed group project with individual roles indicated. [Probably each section will carry a concluding byline, though the participants' roles may be listed either at the beginning or the end. Perhaps the participants' e-mail address should be included in the byline.]

To further clarify the instructions, I have copied the following material from the Course Requirements page:

Process for Task Four

The group as a whole should decide the scope and breadth of the web quest; thus, the individual members of the group may gather some basic information about specific writers that could be included, but the finished list of writers should be a group decision. If possible, the allocation of responsibilities should also be a

matter of consensus.

Within each generating group, students must assume specific roles. For example, one student might establish sources and links related to the geographical, historical, and cultural background. That student would also propose specific student tasks related to that material. Two or three other group members might focus on representative writers, reviewing specific works and developing student resources and activities. A student especially adept at working with graphics or document design might assume overall responsibility for guiding the rest of the group through that part of the activity. In addition, the group may select one person to act as an overall editor in order to maintain consistency of format. The group's project should carry the names of only those students who have successfully completed their tasks as agreed upon by the group. Any student who withdraws from the group project will be expected to complete Task Four on his/her own.

Each group's finished product should be submitted to the professor on disk or cd-rw for grading, with the eventual goal of posting on the course web site (edtech server) for other groups to see.

The Bases for Task Four Grades:

- Objectives are reasonable, appropriate, and clearly stated (20% of task grade)
- Specific writers and works are well-chosen and representative (20 % of task grade)
- Assigned tasks are challenging, creative, and relevant, with possibilities for students to exercise initiative (25 % of task grade)
- Resources are reliable, varied, and sufficient in number (20 % of task grade)
- Design is attractive, engaging, and easy to navigate (15 % of task grade)

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Developing a Cooperative Online Degree Programs-The Practical Mechanics

By: Darla Runyon, Roger Von Holzen
Track 3 - Shaping a Transformative Learning Environment
Interest: Faculty :: Lecture/Presentation :: Level: All

Abstract

Three Missouri state institutions-Lincoln University, Northwest Missouri State University, and Southeast Missouri State University-have joined forces to develop a cooperative online Masters in Education in Teaching and Learning: Elementary degree.

This presentation will focus on the mechanics behind the development and delivery of this unique program. Additional topics that will be covered are shared courses, program marketing, financial considerations, common tuition policies, drop/add procedures, and the cooperative training of online faculty.

Proceeding

Three Missouri state institutions—Lincoln University, Northwest Missouri State University, and Southeast Missouri State University—have joined forces to develop a cooperative online Masters of Education in Teaching and Learning: Elementary degree. This thirty-three hour program is designed to meet the special needs of elementary teachers who are in their early career years. The design of this proposed 33-hour program targets those who wish to pursue graduate programming but are limited due to their geographic location, work requirements and other responsibilities.

Two major goals of the program are to assist these teachers to improve their

practice and to fully equip them to persist in the profession, which is critical during this time of significant teacher shortages. A third goal of the program is to enable the participating institutions to offer a new online degree program while minimizing staffing issues. This is achieved through the cooperative sharing of program courses (each campus will teach at least five of the program's courses) and through the centralization of specific student support services (such as registration, drop/add, technical support and course delivery).

University faculty from across the state of Missouri met over a three-year period to develop the program's curriculum. It is based around the work of the National Board for Professional Teaching standards. The program includes a twelve-hour core of education coursework. In addition, the student selects one of three emphasis area options: reading, math or science. The student must also complete the introductory course in both of the options not selected. Finally, three hours of elective course(s) must be taken to round out the program.

This cooperative program features a comprehensive web site (www.MOHEC.org) providing information regarding the program. Beyond providing linked web pages to the graduate school application forms for each institution (based on common application requirements), the web site provides information regarding program costs, registration processes and procedures, and access to the online courses.

Students interested in this program are assigned to either the reading strand cohort or the math/science cohort. In order to ensure sufficient enrollments in the program's courses for each of the areas, students are proceed through the program on a strand-specific cohort basis. Students in the reading strand cohort begin taking courses during the summer session, while the math/science strand cohort begin taking classes in the program during the fall semester. With either cohort, they are expected to enroll in the course(s) offered during the semester that is associated with their area of emphasis (reading, math or science). Overall, they are expected to progress through this program with their cohort group.

All courses are taught based on a common calendar that falls within the academic calendars for all three campuses (to facilitate grade reporting and faculty time commitments). For example, based on this requirement, the summer 2003 session will run from Wednesday, June 4 through Friday, August 1 and the fall 2003 semester will run Monday, August 25 through Friday, December 12.

The three participating institutions have established common admissions criteria for this program. Note that the program's admissions requirements are higher than those for admission to each institution's graduate school. Admissions criteria recommended include:

- Program admission requires a minimum undergraduate GPA of 3.00
- Alternative admission minimum undergraduate GPA of 2.75 and 3.25 on the first nine hours of graduate coursework in the program
- Graduate record exam: 475 minimum on the verbal or quantitative score and a minimum of 400 on the other score (quantitative or verbal)

- Letter of support from the student's employer (supervisor) if the student works in a school or educational institution
- A cover letter briefly discussing the student's teaching background and the emphasis (cohort) area that the student is interested in (reading, math or science).

Interested students must first be admitted into the program, based on the criteria listed above, by a designated home institution (Lincoln, Northwest or Southeast) following the application procedures for that institution. Returning students who have been out of the program for at least one semester must be readmitted into the program.

Participating faculty must qualify as graduate faculty at their respective home institutions. Each institution has responsibility for the employment decisions, work assignments, annual work evaluations, and termination decisions for its participating faculty. Faculty accepted as graduate faculty by one of the participating institutions is also accepted by the other participating universities.

Upon admission into the program by one of the participating institutions, the student's home institution is assigned the student an academic advisor. It is the responsibility of each institution to provide advisor contact information to its students.

In order to ensure that students from each institution have equal access to the program's courses, it was decided by the participating institutions to allocate course seats on an equal basis. For example, for most classes an enrollment limit of 21 is set. Therefore, each campus is allowed to enroll up to seven students into the classes.

The course reservation system is web-based and provides wait lists for the courses if more than seven students are interested in enrolling in a course from a member institution. This allows us to maintain high enrollments in the classes. For example, in the event that one institution does not fill its allotted seats, while another institution has more than seven students interested in enrolling in the class, once the enrollment period is closed, students on the wait list are allowed into the course on a first-come-first-serve basis. This also covers the possibility of students withdrawing from a class before it starts.

One week (seven days) before class starts, the reservation requests are sent on to the institutions (in a format designated by each registrar's office) so that the students can be formally enrolled in their courses at their home institutions. The web site also handle all adds, drops and withdrawals, which are reported to each campus on a regular/daily basis in a format selected by each campus.

Any costs associated with late adds may be assessed by the student's home institution. If a student decides to drop a course or to withdraw from a course or the program, the drop/withdrawal and refund policies of the student's home institution is enforced.

Students enrolled in courses that are part of the cooperative online Masters of Education in Teaching and Learning: Elementary degree program are billed by their home institution. Beyond the base tuition charge, the student may also be assessed any additional fees (such as a technology fee) and surcharges that are normally applied by the student's home institution. The student is then responsible to pay in full to his/her home institution under that institution's guidelines and policies.

On the sixth day of the summer session or the eleventh day of the fall session, the Program Director conducts a course census. The Director then bills each institution for the number of students enrolled in each of the program's courses at the rate of $200 per credit hour per student. For example, if seven Northwest students are enrolled in a three-hour course and a two-hour course, Northwest will be billed for a total of $7,000 (see below).

$$7 * 3 * \$200 + 7 * 2 * \$200 = \$4,200 + \$2,800 = \$7,000$$

Students who encounter any technical problems associated with their cooperative online Masters of Education in Teaching and Learning: Elementary degree program courses are able to obtain help from the MOHEC help desk. This help desk is available seven days a week, 24 hours a day via either e-mail or by phone.

Standard letter grades (A, B, C, D, and F) are utilized by the instructors participating in the cooperative online Masters of Education in Teaching and Learning: Elementary degree program. For any drops or withdrawals, each campus utilizes its own policies and lettering system for reporting on the students' transcripts.

A secured web site has been developed to enable faculty members to record their course grades. That information is then be made available to each campus's registrar's office. Only a student's home institution is be able to view that student's grades. Submissions of grades to the registrar's office on each campus are made in the format as designated by each office (direct viewing and printing of grade reports, download of files containing grade reports, or e-mail receipt of grade reports).

This paper has focused on the mechanics behind the development and delivery of this unique online cooperative masters degree program. It is an evolving process that has posed an interesting challenge to all of the institutions involved. It has provided the institutions with new insight as to how better serve the diverse needs of their students through learning how other institutions approach similar issues and how greater flexibility is needed to face the challenges of today's educational

environment.

Eighth Annual
Mid-South Instructional Technology Conference
Teaching, Learning, & Technology
The Challenge Continues
March 30-April 1, 2003

2003 Conference Proceedings

Institutional, Public and Individual Learning Dynamics of the Andy Holt Virtual Library

By: Robert Peckham
Track 3 - Shaping a Transformative Learning Environment
Interest: General :: Lecture/Presentation :: Level: All

Abstract

The Andy Holt Virtual Library, with a focus on the Humanities and Fine Arts, is free and open to the public, though designed to serve the learning communities within the College of Humanities and Fine Arts at the University of Tennessee-Martin. It also plays a resource role in UT's New College and the Tennessee Governors School for the Humanities. This independent information source is linked to in key places to the Paul Meek Library on the UT Martin campus.

Proceeding

Transformative: "Having the faculty of transforming" (OED)...Dare I say the power to change? And am I too bold in asking just how a true learning environment can avoid changing things? Surely, those who love the status quo have every reason, if not a right, to fear an effective learning environment, especially one where the price of knowledge is within range of those every-day people who may use knowledge to leverage transformations.

The Andy Holt Virtual Library (henceforth the AHVL), with a focus on the Humanities and Fine Arts, is free and open to that public, though designed to serve the learning communities within the College of Humanities and Fine Arts at the University of Tennessee-Martin (henceforth UTMartin).

The Andy Holt Virtual Library (http://www.utm.edu/vlibrary/vlhome.shtml) its 53 pages have been researched and programmed by the Globe-Gate Intercultural Web Project at UTMartin. It was launched in May of 2001 with full awareness that virtual resources are never a substitute for those physically present in a brick and mortar establishment, with knowledgeable and willing librarians in a number of specialized sub-disciplines. Indeed, a physical library can contain and access a virtual library, but the opposite is not generally true. Appropriately, the AHVL is linked in key places to parallel physical and virtual resources provided by the Paul Meek Library on

the UTMartin campus. All of these, save subscription services, are open to the general remote public.

At the same time, however, this is an independent information conduit, with its own World catalog metasite, an extensive set of free bibliographic databases, a periodical literature collection (including hundreds of full-text journals), A "General Reference Desk" (almanacs and fact books, dictionaries and thesauri, encyclopedias, biographies, maps, quotations, etc.), a "Book Reviews" page, "Docu-Stacks" with access to well over a million digital documents (in dozens of different languages), and other resources associated with the six discipline clusters of the College of Humanities and Fine Arts at UT-Martin.

I need to point out that I am the chief researcher for the AHVL, though I receive many suggestions from active and interested local and remote colleagues, as well as from librarians around the world. Right now, I am the only programmer. I do not think of this as a permanent state of affairs. Our department has just finished renewing itself in the hiring of four out of six full-time tenure track teachers. All are highly computer literate people with their own web sites, some are software designers and one has considerable server administration experience. In addition, I plan to apply for some grant funding.

My qualifications come from the WTS (willingness to serve) rather than the ALA. As a medievalist with interests in textual editing, paleography and codicology, I have done physical research in scores of libraries in ten different countries on three different continents. I have been a consultant for libraries and museums, published one reference volume used in most national libraries around the world, and I have chaired our institution's library committee. My web experience began with the availability of the first humanities-related sites. On the way to building the Globe-Gate Intercultural Web Project with over three quarters of a million visits a year, I have designed and programmed two sites with five-star MERLOT ratings, another used as an official study site for the French baccalauréat, one British Academy gateway site, etc. As to my knowledge of the other disciplines in our College of Humanities and Fine Arts, I have a solid liberal arts education, have worked as an English teacher, have been an active participant in all the performing arts, am considered more of a historian than a literary critic in my own discipline: Foreign Languages and Cultures. While nothing can make up for the lack of a library degree, I have been reasonably successful.

To tell the story from its beginning, in the Fall of 2000, our newly-formed College of Humanities and Fine Arts stepped into the academic limelight with its founding dean. All of us in the college's six departments were anxious about our reduced size. After all, we were among thirteen departments in the previous "College of Arts and Sciences". Then, there was the that image question of what we would represent to students, parents, accreditation teams, potential donors and legislators. We needed some new ways to define ourselves beyond our separate disciplines and administrative umbrella. As a Professor in a department already well known for its collaborative work with other departments in areas like international education and language across the curriculum, I began to revive, reiterate and downsize a proposal which had died with the hope of a unified "Tennessee Virtual University" in late 1999. The original virtual library for this purpose was to be large, staffed and well funded. The present library idea, which I showed first to my chair and then to my dean, was a modest concept, quite different from the rose-colored dream of the dot.com era. The notion of using link lists divided into discipline-specific and library-basic categories seemed manageable so long as I could get cooperation from some key people in my college. Since I was to invest time in a major online project not directly related either to my classroom duties or to my scholarly discipline, and since I planned to undertake this not long before I was to endure post-tenure review, I needed to negotiate around the fact that time taken would have to come from research and publication. When I explained that I would have to forgo writing one of those highly publishable monographs...let's call it

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Morphing discourse, lacanian loquacity and millennial metaphorics embedded in the readerly riddles of Booth's Great Aunt , the dean smiled and assured me of his support if I would follow through on a successful virtual library. He even had me introduce the concept in a faculty meeting for the whole college.

Armed with an email list of College of Humanities and Fine Arts faculty, directory space negotiated by the dean, and a list of contacts in major libraries and web projects world-wide, I began the task of organizing what I had, looking at courses offered in each department, trying to get brief research profiles on as many individual faculty as I could. Then, I used this information to gather more links, and I began to send out potential page contents to my colleagues for feed-back. I even met with two departments to discuss the construction of their periodicals collections. Of course, from the very beginning, I have remained in regular contact with the excellent staff of our campus's Paul Meek Library.

How does the AHVL help to craft dynamic institution-based learning environments? First, it is appropriately linked among our campus library's Electronic Databases (Paul Meek Library) http://www.utm.edu/departments/acadpro/library/catalog/edatabases.php.

Even though the AHVL's size and complexity make it unlike many of the other databases, this is a very appropriate place for patrons to encounter a resource of this kind. From what I was told the classification met with the approval of the Southern Association of Schools and Colleges who visited our campus in the Spring of 2002, and praised our use of electronic resources.

In considering Institutional learning dynamics, I cannot overlook the productive relationship between the AHVL and the Paul Meek Library on campus. In addition to including us among the "electronic databases", it has also used some lower-level pages in other places. For instance, Globe-Gate's Weakley County web site, which though not an official AHVL page, functions within the history discipline page of the AHVL. The Paul Meek Library uses this page http://www.utm.edu/departments/acadpro/library/departments/special_collections/SCSTATE.HTM in its presentation of local history.

In turn, my incorporation of Paul Meek library resources, especially subscription databases, which I have cautiously designated for "UTMartin patrons, with on-campus, UTM remote, or proxy-server access" has helped to increase awareness of these resources in our academic community. I myself have had to learn a few interesting lessons about subscriber verification in these databases in order to set designated patrons on a path that will actually lead to operating these resources.

A second manifestation of institutional learning dynamics is an outcome of the UT Martin's status as virtual home of New College (The University of Tennessee's virtual campus) http://newcollege.tennessee.edu/homepage.htm now a partner with ELEARNIT.ORG (Public Higher Education Online). The AHVL is among its electronic learning resources, and there is an increasing call for courses in the Humanities and Arts.

Yet another example of the AHFL affecting institutional learning dynamics is evident in the Tennessee Governors School For The Humanities, which will be operational again this summer (after a budget hiatus in 2002. As bright high school students from all over the state prepare to join a nationally selected faculty, to investigate, as the handbook says, "why people create different and sometimes opposing cultures, have complex ethos and expressive styles, and believe as they do", they will be able to begin and pursue their investigation with the assistance

of a virtual library made-to-order for humanities research, chosen by this year's director.

GSH Internet Links
http://www.utm.edu/~govschol/

Finally, institutional learning dynamics associated with designing and implementing the AHVL extend to an exploration of where research and courses indicate possibilities for connections or needs for distinctions. For example both the Department of Modern Foreign Languages and History and Philosophy are committed to the study of extra territorial civilization. However, my department's focus is national cultures, whereas that of History and Philosophy is cultural internationalism. The difference between "photography" in the Visual Arts and Communications curricula effect the kind of photography resources I will link. Also, I have used the library to increase the visibility of Religious Studies and International Studies majors, whose presence is not apparent in the name of the "Department of History and Philosophy".

As I have indicated, the AHVL is, for the most part, free and open to public use. As such, it is recognized by the Tennessee Library Association in the TLA Newsletter (July 2001): 9., endorsed by the Oak Ridge Public Library, Homeschool Central, the Carnegie Library of Pittsburgh, to name just a few. In the current economic downturn, with national funds being diverted to geopolitical agendas, and with state budgets in jeopardy everywhere in the nation, there will be fewer public and public school libraries able to afford subscription databases. The AHVL cannot take these place of the abundant, well organized, and often conveniently programmed resources. I should point out however that not all subscription virtual libraries and databases will be able to weather the economic climate in this dawn of the twenty-first century, and I think that the experience of sites presenting organized arrays of free public resources, will be an incentive in the creation of the successful subscription databases of tomorrow. This has become evident to me in my

A final aspect of public learning dynamics is the AHVL's response to what individual patrons demand. After the 9/11 attack, as attention began to focus on Afghanistan, I noted that one of the Paul Meek librarian emailed a few links about this Central Asian country. At the same time, I was receiving mail from a number of users outside the UTMartin academic community asking where our resources on Afghanistan were. We had none at the time, but public interest quickly brought the resolve to create the AHVL AFGHANISTAN INFORMATION CENTER (http://www.utm.edu/vlibrary/afghan.shtml).

Strong public interest also inspired the creation of the AHVL IRAQ INFORMATION CENTER (http://www.utm.edu/vlibrary/iraq.shtml) just days before hostilities began.

What remains can only be explained by a walk-through:

ANDY HOLT VIRTUAL LIBRARY
http://www.utm.edu/vlibrary/vlhome.shtml

As you can see, programming is uncomplicated, and the library categories somewhat intuitive . Each page is similar in appearance, containing an often hypertext embedded introduction and links. There are two main categories: Resources that that provide principally locational or bibliographic data, and those resources which are directly informative: text, image, sound, etc.

The three links of the the first category

GLOBEPORTAL - World Catalog Window
http://www.utm.edu/vlibrary/glportal.shtml

GLOBEPORTAL is a collection of key World catalog metasites and smaller catalog sites to allow patrons comprehensive access to online library, museum, archive and special collections catalogs necessary for their research. While none of them is a metacatalog of the scope of First Search's "Worldcat", they can collectively take the researcher with patience and good instincts beyond Worldcat's OCLC database limits. The well-planned Berkeley Sunsite Catalog Portal has an understandable anchor position. We have supplemented where we found this resource lacking, where another resource presented a particularly useful arrangement of catalogs, or where a special feature of a particular catalog offered a desirable and effective advanced search feature. Since Firstsearch is a component of UTMartin's subscription databases, I include a link to these databases (accessible to UTMartin computers online and to those using remote access UTMartin accounts). The last section is our portal to significantly large, general and mostly free-access virtual libraries, which catalog web and database resources.

The second:

ARTICLEGATE - Bibliographic Databases
http://www.utm.edu/vlibrary/databas.shtml

Whereas Globeportal opens doors to a comprehensive bibliographic universe of whole documents and artifacts,"ARTICLEGATE", takes a more limited and modest aim to retrieve bibliographic data describing journal articles, book chapters, reviews and other component studies. It is intended to supplement the Paul Meek Library's bank of subscription electronic databases and full-text resources. Unlike these, the following 75 databases do not require a subscription. Most are small and specialized. A handful offer limited full-text resources. Some will take individual subscriptions for retrieval of additional information, or will sell full text, but all give at least basic bibliographic detail free of charge. Obtaining information from these may be more challenging than information retrieval from subscription databases; retrieval mechanisms are varied, and some require a working knowledge of languages other than English.

Third is

PERIODICAL LITERATURE
http://www.utm.edu/vlibrary/period.shtml

This collection contains 31 discipline-specific periodicals indexes made specifically for the Andy Holt Virtual Library, integrated with some which were made for other libraries. All are arranged by discipline. Our consideration of periodical literature has at its base the current collection at the Paul Meek library on the campus of UT Martin. Our aim, however, is to expand beyond that base in the number of journals which patrons may consult. Users should also be reminded that they have bibliographic data and some full text through the Paul Meek library electronic databases, and also through the Andy Holt Virtual Library's ARTICLEGATE - Bibliographic Databases. All links offer consultation of current tables of contents, abstracts, archives or full text, so that patrons may glean bibliographic information, determine the way a topic has been treated or read an article in a journal which might not otherwise be available locally. The collection introduction links three periodical-specific search engines yielding information and web sites for an extremely wide range of journals and magazines. We also included six links to

hundreds of freely accessible full-text journals in a wide variety of disciplines.

In all, the collection leads to nearly 3700 journal sites, and doubles the number full-text journals in the paper subscription base of our six departments. I chose to retain this in the "Bibliographic Data" section because bulk of these links lead to bibliographic information rather than full text. In some cases, these pages have had some public success.

Medieval & Renaissance Studies Periodicals
http://www.utm.edu/vlibrary/chrono2.shtml

is endorsed by

ORB The Online Reference Book for Meideval Studies
http://orb.rhodes.edu/sitelinks.html

and

FRENCH & FRANCOPHONE STUDIES JOURNALS
http://www.utm.edu/vlibrary/revues.shtml

links the last nine issues of the locally edited and eagerly awaited periodical with a focus on fifteenth-century French poetry:

Société François Villon, Bulletin
http://globegate.utm.edu/french/globegate_mirror/villon.html#Société

Within our resources presenting text and other media such as sound and image files, the first subcategory

GENERAL REFERENCE DESK
http://www.utm.edu/vlibrary/refdesk.shtml

chooses a limited number of reference tools for basic and quick research of facts. We link to the Paul Meek Library's online guides for finding reference material in the paper world. Since the focus of Andy Holt Virtual Library is the Humanities and Fine Arts, we have not included reference tools designed for general information retrieval in Mathematics, Business, the Sciences, Engineering, and Agriculture, though these areas are covered in many general encyclopedias, dictionaries, almanacs and biography collections. Our general reference tools include some in the languages taught at UT Martin.

This is followed by

BOOK REVIEW CENTRAL
http://www.utm.edu/vlibrary/bookrev.shtml

Like our "GLOBEPORTAL - World Catalog Window" page, this one links readers to information about resources that are largely in print. We have selected 52 links connecting library patrons to nearly 100,000 full-text book reviews in a variety of categories. I do remind patrons that the Paul Meek Library's full-text databases offer many more book reviews.

Our next sub-category: "DOCU-STACKS: Online Digital Texts Collections", leads to over a million digital documents. It has needed a weeding and reorganization for a long time and will have to wait until this summer. Its current divisions

1) Large Collections (1000 or over)
http://www.utm.edu/vlibrary/docust1.shtml

2) Smaller Collections
http://www.utm.edu/vlibrary/docust2.shtml

3) Collections of Documents in a Single Foreign Language
http://www.utm.edu/vlibrary/docust3.shtml

4) Collections pertaining to Single Authors, Personalities & Works
http://www.utm.edu/vlibrary/docust4.shtml

5) KIDstack: Collections of Children's Literature
http://www.utm.edu/vlibrary/docust5.shtml

are not transparent enough for ease of navigation.

The last sub-category is "Other Informational Resources Listed By Department". For each of the six pages specific to a discipline clusters corresponding to one of our six departments, the introduction features the departmental mission statement, which is also reflected in resource links to major web sites and free information or media databases related to the disciplines, or sponsored by academic and professional organizations within those disciplines. Therefore the "Communications" page where departmental goals include providing a "professionally oriented program . . . designed to educate students in both the theoretical and applied aspects of the communications discipline", we have linked sites like "FedLaw - Communications and Telecommunications" the "Television News Archive" at Vanderbilt, and the "Public Relations Society of America".

I am constantly debating with myself about whether I should join some kind of virtual library consortium, and when I should step forward to apply for a grant. My most serious problem is time. Currently I hold a position of Professor of French and Director of the Muriel Tomlinson Language Resource Center at the UTMartin. There is no extra time left within this framework, even if I eliminate all scholarly activity related to my field. I will have to solicit a grant and release from some more duties. Also, to find collaborators who are willing to change some of their time use priorities. Without some change, all I can do is to go on a maintenance schedule and hope for the best. With good fortune, here is what I propose for the next few months. 1) Working with a skilled programmer to build search function for the AHVL. 2) A reorganization of the "DOCU-STACKS". 3) Construction of a local digital documents collection page. There are a number of people on campus and in our County who are making online editions of with historical, literary and artistic value. 4) Design a locally-edited electronic periodicals page. 5) Start a faculty and student review service. 6. Design short "how to use" java pop-ups for a number of the pages.

I still have a modest vision for the AHVL, but I will admit that it does have the power to affect changes within the institutional framework of an academic community, in the role it plays vis-à-

vis the public, which it nurtures with its resources and from which it may well recruit students. I hope that a combined use of the AHVL, the Paul Meek Library and Inter-library loan resources will accelerate the research phase of Humanities and Fine Arts scholarship undertaken by the very busy individuals on our faculty, whose primary mission is teaching; the same for members of our student body, many of whom maintain a delicate balance between paying jobs and their studies. For these, the power of a virtual library can be the transformative wind in their intellectual sails.

A Short 21st-Century Bibliography for Digital and Virtual Libraries

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2003 Conference Proceedings

XML: A Beginner's Guide

By: Robert Hallis
Track 3 - Shaping a Transformative Learning Environment
Interest: General :: Lecture/Presentation :: Level: Beginner

Abstract

XML is one of the more recent resources delivered through the web, and itis impact on information professionals is sure to be profound. Whereas HTML provided instructions for displaying information contained in the file, XML provides a syntax within which one can distinguish the various types of information within a file. This presentation will provide an introduction to the language, uses and future implications of this technology in the information profession.

Proceeding

Extensible Markup Language (XML) provides an extremely versatile environment for exchanging information. Coupled with related markup languages, such as XPaths, Links and Pointers; XSchamas and XStyle-sheetListings, and supporting technologies such as programming scripts, databases and compatible applications; this markup language offers powerful opportunities through which one can maximize the exchangeability of information. It's impact can easily be seen in the number of books published on the topic, and the extent to which XML has been incorporated into such applications as MS Office, Quark, and many others. There are enough "how to" books already published. [The bibliography lists the dozen I've worked with out of hundreds that are currently available]. And an hour is too short a time to get heavily into the coding. This guide will concentrate on conceptually understanding the structure of an XML file and how these elements are tagged. We will also briefly consider the growing interest in structuring data within an XML format, and examine an example currently being developed in the Harmon Computer Commons at Central Missouri State University.

XML is a recently developed subset of SGML: Standardized Generalized Markup Language. In fact it just turned 5 years old in February 2003. Simply stated, XML does nothing. Rather it identifies the structural content of a document. Once the structure is established, however, this markup language provides greater latitude in defining the display characteristics of a document, facilitates the manipulation of data through programming scripts, and provides greater flexibility in moving between XML documents and sections of documents than HTML.

There are several parts to the extensible language. XML refers to the document that uses extensible markup language to structure its contents. It is a tagged language, which means that data are enclosed between tags created by the author. Rather than using a set of defined tags, as HTML does, the author determines the tag structure best suited to the informational structure, and defines these elements as well as their relations and attributes in a Document Type Definition. The XML file can either contain or call two supporting files: the Document Type Definition, which explains the structural elements and their relations; and formatting instructions, which are coded either as a cascading style sheet or in an extensible style-sheet language

The structure of XML documents provides a greater degree of accuracy when identifying parts of a document, linking between parts of a document, and referring to parts of a document. These functions are found in XPaths, XLinks and XPointers. They use the tags and relations of the XML file to provide paths through which one

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can move forward or backward through a document, return specific nodes of data, or incorporate the data of one or more XML files through referencing these tags. XSchemas are used to ensure the data contained within an XML file conforms to specific guidelines. Given the time constraints this afternoon, we will concentrate on structuring and tagging the data within an XML file.

XML files contain a structural representation of the content of a document. So the first step involves distinguishing the appearance of a document from its structural relations. We will be using a typical memo throughout this discussion as an example of a simple document. [Fig A]

Memo
To: Someone
From: Someone Else
Re: Important Information
Date: 09/22/2004

This is important information.

Fig A.

Looking at the "paper" document, one sees formatted fonts, within a particular color scheme, placed within a particular arrangement on a document. The structure of this document, however, is quite different. [Fig B]

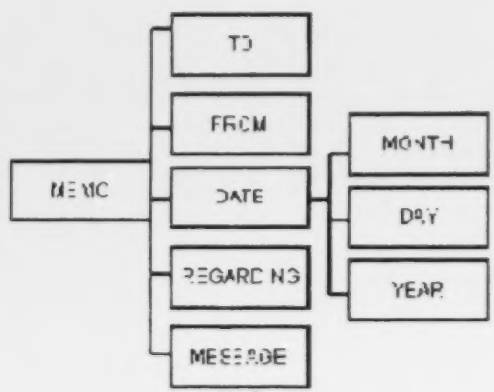

Fig B

This memo contains several distinct elements: who should receive the information, who sent it, what it is about, the date on which it was written, and the content of the memo. These elements are in a particular relation. The informational content is in a child relation to the parent memo, and the date information is in a child relation to the parent element date. Each of these elements may contain particular attributes, which are predefined qualities, or be free to take on any content. In either case, this memo is an example of a template we may call companymemos. As a paper document, there may be hundreds of these generated in a day. As an XML document, each individual instance of a memo is a data node within the file tree companymemo.

These elements, relations and attributes are reflected in the tagged structure of the XML syntax.

A markup language is characterized by beginning and ending each informational unit with a tag. An opening tag begins with a less-than symbol, the name of the tag

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and a greater-than symbol. A closing tag uses a backslash before the tagname to indicate that it closes the tag pair. Figure C illustrates how a 'memo' tag would appear. So every instance of a memo would begin with a tag and end with a tag, and every element within that memo would be properly nested within this structure.

Fig C

<memo> MEMO</memo>

Looking at the XML representation of these documents, we see that each collection of elements, in their relationships, is added to the root structure of companymemo. These elements, relations and attributes are reflected in the tagged structure of the XML syntax in a parent child relationship. Each memo has five child elements, and the date element has three children Each element of the XML file tree has a corresponding tag, which is identified in the Document Type Definition. Tags, however, need to be nested. So the XML file for this document would nest each child element within the parent structure. [Fig D]

Well-Formed Document

```
<?xml version="1.0" encoding="UTF-8"?>
<?xml stylesheet href="companymemo.css" type="text/css"?>
<!DOCTYPE companymemo SYSTEM "companymemo.dtd">
<companymemo>
    <memo>
        <to>Someone</to>
        <from> Someone Else </from>
        <re> Important Information</re>
        <date>
            <month>09</month>
            <day>22</day>
            <year>2004</year>
        </date>
        <message>This is important information!</message>
    </memo>
    <memo>
        <to>Anyone</to>
        <from> Someone Else </from>
```

Fig D

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Consequently, after opening the tag companymemo, memo would be opened. Tags 'to,' 'from,' and 're' would each be opened and closed. The date tag would be opened, but would not close before the 'month,' 'day,' and 'year' tag were opened and closed. Then the 'date' tag would be closed. The 'message' tag would be opened and closed, and then the memo tag would be closed, ending that node on the 'companymemo' file tree. The structure would be repeated for each memo generated. A file following all the XML rules is said to be well formed.

The basic syntax of XML follows several simple rules. Content is structured. All tags are closed and properly nested. Tags are case sensitive. No spaces should be in a tag. White Space is not ignored. All attributes are in quotes. XML is human readable to the extent one uses tags that denote their contents. Again, one of the nice things about XML is that one makes up the tags to denote the informational content of the document.

Comparing a paper document with conventional HTML and XML exhibits many of the defining characteristics of XML. [Ex. E]

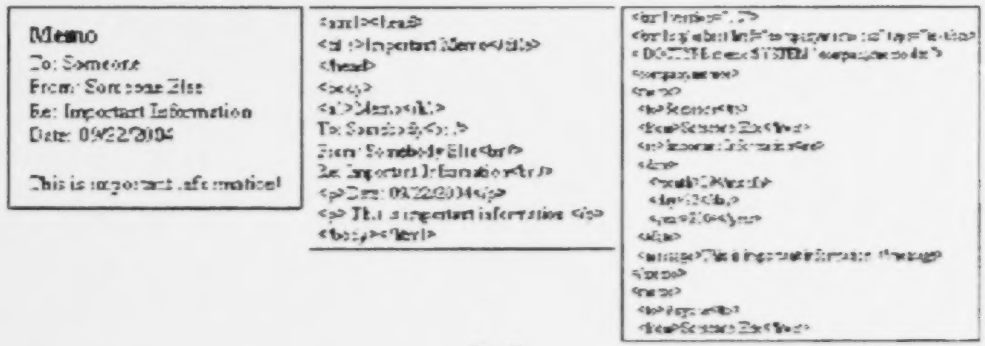

Fig. E

This memo contains several distinct types of information: who should receive it, who sent it, when it was sent, a descriptive title, and the information itself. This information is then arranged on a page [through a word processor or typewriter]. Turning this document into a web document using HTML involves declaring the markup language used, html; and how the text should be displayed within a browser using a standard set of tags. The title of the page of information is contained within the <title> tag, and the body of the document designated that one line should be displayed as a header, while the carriage returns need to be inserted at appropriate points throughout the rest of the document. The body tag is then closed, and the html tag is closed. By contrast, the XML document identifies a style sheet and document, and encloses each piece of data with a tag that describes the informational content of that datum. In otherwords, html tells the browser how the information contained within its tags is to be displayed, and XML describes the content and structure of the information. Through the use of a document definition, the elements within the XML file are validated, and through a style sheet, the browser is instructed how each type of data should appear. A closer examination of XML reveals how this works.

An XML document consists of a well formed file that generally references or contains information about the elements it contains, usually in the form of a Document Type Definition, DTD, and how it should be displayed, usually through CSS or XSL coding. These can be contained in the document, or the files containing this coding can be referenced from within the XML document. Consequently, three types of information are used to display an XML document. Extensible links, whether paths, links or pointers, permit one to reference and move between elements of an XML file, and Schemas provide a means by which one can restrict the data contained within a tag inorder to ensure its compatibility with other applications or database requirements.

This is a display of an XML document that calls separate files for the Document Type Definition and a Cascading Style Sheet. Examining each document separately permits one to see how they interact. The second and third line of the XML file [Fig D] contains the path names to the two supporting files. The Cascading Style Sheet identifies how the font of each element is to be formatted and displayed. <?xml-stylesheet href="companymemo.css" type="text/css"?> The DTD identifies each element, their relationship and any attributes they may have. <!DOCTYPE companymemo SYSTEM "companymemo.dtd"> Examining each more closely shows how one influences the other.

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The document type definition identifies the elements and their relations as well as identifying permissible attributes. They provide a means by which people can agree on the markup standards used in an XML file. The contents of a DTD may be included within the XML file, an internal DTD, or saved in a separate file and referenced by the XML file. Each element is identified within the <!ELEMENT namespace > tag, and the relations are denoted by enclosing the children within parenthesis. In figure F, one sees that the root element companymemo, has one child, memo, and the element date has three elements; month, day and year. The '+' after 'memo' indicates that there may be one or more instances of 'memo' within the root element 'companymemo.' Each element containing that contains data identifies that type of data. Here the #PCDATA denotes that that element contains parced character data. Here one sees that each parent element lists the number of child elements.

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- edited with XMLSPY v5 rel. 3 U (http://www.x
<!--DTD generated by XMLSPY v5 rel. 3 U (http://
<!ELEMENT companymemo (memo+)>
<!ELEMENT date (month, day, year)>
<!ELEMENT day (#PCDATA)>
<!ELEMENT from (#PCDATA)>
<!ELEMENT memo (to, from, re, date, message)>
<!ELEMENT message (#PCDATA)>
<!ELEMENT month (#PCDATA)>
<!ELEMENT re (#PCDATA)>
<!ELEMENT to (#PCDATA)>
<!ELEMENT year (#PCDATA)>
```

Fig. F

A well-formed document follows correct XML syntax. A valid document adheres to the structure prescribed in the Document Type Definition. The structure outlined in figure B is defined in the DTD, figure F. The element 'memo' has five children; 'to,' 'from,' 're,' 'date,' and 'message.' While the parent 'day' has three children; 'month,' 'day,' and 'year.' Elements can occur once, many times or not at all; and this needs to be set up in the DTD. Attributes are also listed in the DTD.

Attributes identify the element name, the attributes associated with that element, the type of data and the usage. The attributes of an element follow the convention, <!ATTLIST ememement_name Attribute_name Type Default_value> If we wanted to designate whether the memo was internal, or its priority, setting up appropriate attributes could easily be done.

Figure F illustrates the line added below the element memo in the DTD, and lists an attribute 'destination,' which can be either internal or external; and 'priority,' which can be FYI, Normal or Urgent. The 'destination' attribute is required, and the 'priority' attribute is optional. Thus the portion of code at the bottom of Figure G denotes that this instance of 'memo' has the attributes of 'internal' and 'FYI.'

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```
<!ATTLIST memo destination (internal | external) CDATA #REQUIRED
              priority (FYI | Normal | Urgent) CDATA #IMPLIED>


<memo  destination="internal" priority="FYI"
```

Fig. G

There are many more aspects to using attributes within a DTD, but the conceptual point here is that they may affect how one structures data within the XML file, and how the data may be manipulated. The tag 'day' in figure D has three children; 'month,' 'day,' and 'year.' This could be arranged so that the element 'day' has three attributes; month, day and year; and each attribute is required from a list of appropriate choices. This would be coded like figure H.

Fig. H

```
<date month="September" day="22" year="2004" />
```

XML files need additional coding inorder to display their data. Cascading Style Sheets (CSS) define the font, size, color and placement of each element. One cannot add text that is not in the XML file, but one can define the manner in which the text is formatted. Figure I is an example of an appropriate CSS file that would produce the following display.

Memo
TO:
Someone
From:
Someone Else
Regarding:
Important Information
Date:
09 22 2004
Message:
This is important information!

```
heading {display: block; font-family: Arial, Helvetica;
font-size: 18 pt; color: #339900;}

label {margin-left: 15; display: block;
font-family: Arial, Helvetica;
font-size: 14 pt; color: #FF0000;}

month, day, year {margin-left: 25;
display: inline;
font-family: Arial, Helvetica;
font-size: 12 pt; color: "red";}

from, to, re, message {
margin-left: 25; display: block;
font-family: Arial, Helvetica;
font-size: 12 pt; color: "red";}
```

Figure I.

The CSS identifies the font, size, color and any indention that is to be used for each element. Here the heading and label data needed to be added to the XML file because it cannot be added within the CSS. In this example, the heading is to be displayed in a block format, with Arial or Helvetica font, at 18 points in the

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hexadecimal color code for green. The from, to, re and message share a common formatting. There are many more aspects to using CSS to display the contents of an XML file, but the conceptual point here is that additional tags may have to be used inorder to include text.

Extensible Style-sheet Language reads the data from an XML file into an HTML page. Each node of the XML file is displayed with the same formatting. Text can be added in the document. As the browser parses the XML document, it loops through the XSL for each instance of a particular node within the XML file. Figure J is an XSL that produces the following display of the data contained in companymemo.

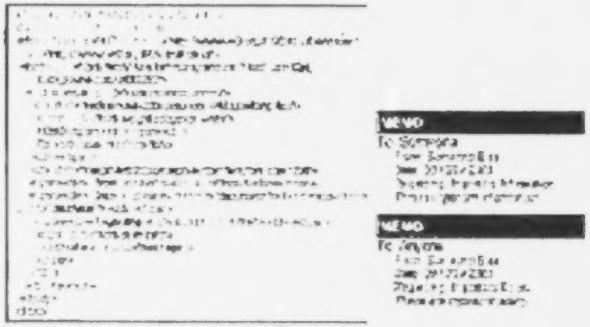

Fig J

The XSL is identified in the XML prolog with the following code: <?xml-stylesheet type="text/xsl" href="companymemo.xsl" ?> Once the file is called, the XML data is inserted into an HTML format using some special tags. <xsl for-each select="nodepath"> is used to identify the node from which individual data elements will be selected, and each individual element is selected through a <xsl:value-of-select="fieldname" ... tag. When the last element in the node is selected, the stylesheet goes to the next node, repeating the cycle until all the nodes have been processed with the same set of instructions.

There are a number of XML editors, just as there are a number of HTML editors. Many of them check for well-formed XML files as well as validating them against a DTD. The more sophisticated editors enable one to work with all of the extensible languages, and facilitate the incorporation of programming scripts. Dreamweaver MX and XML Spy are two powewrful editors. A simple, but freely downloadable editor, is Moicrosoft's XML Notepad. It is an editor that enables one to define elements and attributes, and saves the resulting XML document. [Fig K]

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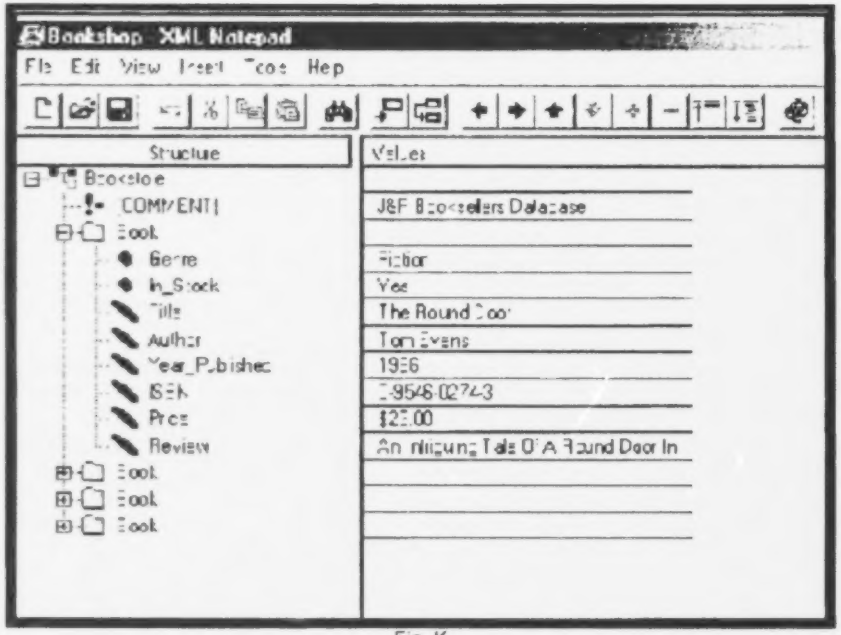

Fig. K.

It is available at. http://www.webattack.com/get/xmlnotepad.shtml.

XML is well suited to work with several types of data. It works well with data in complex forms, and in data structures in which the fields are large or complex. Because it is slower to process than data processed in relational databases, speed is a consideration, and searching is not as quick. Because it handles data as character strings, passing numerical data for coordinates or within a machine readable fashion may be problematic. It is, however good for data warehousing or archiving, and can facilitated moving data across different platforms or applications. It also provides a scaleable option when data needs grow.

The Library at Central Missouri State University offers about 30 different workshops, three times a semester. Information about each workshop would include learning objectives, a brief description of the activities, who leads the workshop, and the title of the workshop. In addition, we would like to provide this information in both web and print form in a variety of different forms. In addition, we wanted to provide clients with some flexibility in working with this information, while at the same time, keep server traffic to a minimum. [Fig. L]

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ID:	8
Name:	Ms PowerPoint 2-II
Objective:	Objectives: To develop a -familiarity with how to add animation and group objects -familiarity with how to incorporate transitions between slides -familiarity with editing components: masters, templates, text and graphics, wordart and animations -familiarity with using audio and video elements in a presentation. -familiarity with additional presentation methods, using narration, exporting to the web and using 'Pack & Go.'
Workshop:	Move from using the wizards and templates provided with the program to creating unique and purposeful presentations. Expand the possibilities by learning to add animation, providing transitions, formatting backgrounds and editing masters.
Type:	MS
Level:	A
Instructor:	Rob Ellis

Fig L

Individual fields may be long and contain formatted text. We would like to recycle this information, once encoded, in a variety of formats. We also want to provide the client with a great deal of flexibility in manipulating the data without overwhelming him or her.

I began by outlining the structure of the information, and created a simple Access database within which I could quickly edit information and export it into an XML environment. One of the Network Administrators provided some Visual Basic and Java script to enable sorting and filtering, and I brought the prototype that provides the client with a great deal of control over the display of information. Workshops can be sorted by type or instructor, and clicking on any individual workshop displays all the information about that particular class. [Fig. M]

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Show all

Workshop Type:	Instructor
Computing	David Cruz

Introduction to the PC	Computing	Scott Nicholson
Introduction to Macs	Computing	Scott Nicholson
MS Word I	MS	Dave Cruz
MS Word II	MS	Dave Cruz
MS Excel I	MS	Dave Cruz
MS Excel II	MS	Dave Cruz
MS PowerPoint I	MS	Rob Hallis
MS PowerPoint II	MS	Rob Hallis
MS Access I	MS	Linwood Mason
MS Access III	MS	Linwood Mason
WebDesign	Web	Rob Hallis
FrontPage	Web MS	Rob Hallis
Student Work	Student	
Effectively Searching the WWW	Web	Rob Hallis

ID:	8
Name:	MS PowerPoint II
Objective:	Objectives: To develop a familiarity with how to add animation and group objects -familiarity with how to incorporate transitions between slides -familiarity with editing components, masters, templates, text and graphics, wordart and animations -familiarity with using audio and video elements in a presentation -familiarity with additional presentation methods: using narration, exporting to the web and using Pack & Go.'
Workshop:	Move from using the wizards and templates provided with the program to creating unique and purposeful presentations. Expand the possibilities by learning to add animation, providing transitions, formatting backgrounds and editing masters.
Type:	MS
Level:	I
Instructor:	Rob Hallis

Fig M

Through using a variety of XSLs and XPaths, general information can be exported to supporting web-pages, print handouts, and other publicity media. Because the client receives all the data on the initial request, he or she is working with a dataset on their desktop and not repeatedly querying our server to resort, filter or display the information.

In conclusion, XML provides a structure to the file that simplifies working with the data. It is a language designed for the internet. It is flexible, open, widespread and platform neutral. It supports searching and uses simple browsers. On the other hand, searching is slow and perhaps inefficient and it moves away from centralized DB models. Nevertheless, it may be ideally suited for the data you need to work with.

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The Wrinkle in Your Research and Teaching: Copyright, DMCA, Guidelines, and Public Domain

By: Suann Alexander, Diane Baird
Track 4 - Policies, Standards, and Issues
Interest: General :: Lecture/Presentation :: Level: Beginner

Abstract

Iron out the wrinkle created by copyright! Information about recent copyright legislation will equip you to iron out those wrinkles that can affect your academic work. Copyright is constantly changing in scope and concept. Legal expertise is often the ultimate answer. But a basic understanding of the historical background, constitutional basis, some of the accepted guidelines, current legislation, and the public domain advocacy issue will help to avoid any problem wrinkles that copyright might create in your research and teaching.

Proceeding

Think about it. Everything is going smoothly with your research paper, web page design, or class preparation, when up pop the copyright questions. Can I use this quote or this material without breaking copyright law? How much of this material can I legitimately photocopy for my class or put on Reserve? Can I use the material from this web page, or put this music on my web page? How does copyright protect the material I have created? Copyright can certainly put a wrinkle in the research, writing, and class planning process that was going along so smoothly. And new laws and guidelines are coming so fast that you cannot keep up with all the new wrinkles that those copyright laws create. You will either have to learn to deal with copyright before it messes up your nicely ironed research paper, or you will have to learn to iron faster. Here is some information that will hopefully help with all those wrinkles and make your research, writing, and teaching a much smoother process.

A Little History

Copyright is not a modern institution. The concept of copyright began in Britain in 1557 to protect intellectual property and was considered important enough to be included in the Constitution of the United States of America. The primary purpose of copyright, according to the framers of the constitution, is to "promote the progress of science and the useful arts" (Article 1, Section 8) by giving authors exclusive rights to their writings for a reasonable time. It prevents persons other than the author from profiting from the work.

Enacted in 1790, the first United States Copyright Act was a close replica of an earlier English statute.

This act has had numerous revisions, including the major revision act of 1976. The 1976 act has been amended more than 30 times with many more changes expected. Because of changes in law, science, technology, and international relations it is necessary to amend the copyright law to protect works not previously covered and to comply with international treaties. Since 1989, we have experienced at least four major acts concerning intellectual property – the Berne Convention, the Copyright Term Extension Act (Sonny Bono Act), the Digital Millennium Copyright Act (DMCA), and the Technology, Education and Copyright Harmonization Act (TEACH). Most changes were a gradual effort to truly protect intellectual property. However, it does not appear that these answer the needs, so we can expect more changes in the near future. All these factors have radically changed the concept of intellectual property, creative efforts, fair use, copyright, and public domain.

Fair Use

The Federal Convention of the United States established copyright protection in the final draft of the United States Constitution "To promote the Progress of Science and the useful Arts, by securing for limited Times, to Authors and Inventors, the exclusive Right to their respective Writings and Discoveries." Fourteen years was the time limit set in 1790 and the limit has now been stretched to the author's life plus 70 years. The Copyright Act of 1976 is the last comprehensive copyright act passed by Congress and is still in effect because it included inclusive language that would not limit format or technology. This act is one academia has dealt with successfully because of the important accompanying Fair Use doctrine or privilege (Section 107). The 1976 act truly implemented the Constitutional goal of promoting progress of useful information by allowing exceptions for educational purposes even when faced with extension of exclusive rights. The Founding Fathers realized the importance of utilizing information as a foundation for growth and expansion of creativity and science for the benefit of all. The Fair Use privilege is unique because it allows exception to copyright exclusiveness and recourse for copyright holders and even punishment for copyright infringement. It does not define fair use in a quantitative aspect; any infringement must be decided through legal action on a case-by-case basis. Reproduction of copyright material considered fair would be for criticism, comment, news reporting, teaching, scholarship, and research. Reproduction is set within parameters outlined by four factors in Section 107 of Title 17, U.S. Code:

1. the purpose and character of the use, including whether such use is of commercial nature or is for non-profit educational purposes;
2. the nature of the copyrighted work
3. amount and substantiality of the portion used in relation to the copyrighted work as a whole; and
4. the effect of the use upon the potential market for or value of the copyrighted work.

These factors have been utilized, quoted, promoted, reviled, and bowed to since 1976 and many have become inured of their importance. These factors are the essence of using copyright material in academia. They must be protected, utilized, adhered to, and championed by academia. Copyright protects the creative expression of the copyright holder; it does not protect the ideas, systems, or factual information conveyed or contained in the work. That is the basis of fair use; allowing enough reproduction to present the idea, system, or facts available without compromising the creativity of presentation. The Fair Use Act or Doctrine of Fair Use should not need to be explained – FAIR is the operative word.

However there are many myths surrounding fair use. One of these is that as long as it is for educational purposes and you cite it, you can use as much of someone else's work as is needed. Remember, this is a myth. Since the Fair Use Act is qualitative and not quantitative it only perpetuates these myths. Because there is much confusion about what can and cannot be reproduced many associations have agreed on guidelines to help ease the way for fair use of copyrighted material. Many of these are available on-line for educational purposes from kindergarten to space. In general, reproduction of copyright material should be based on:

1. Text: up to 10 percent or 1,000 words of a copyrighted text may be used, an entire poem may be

used if it's less than 250 words; for longer poems, a limit of 250 words may be used, a chapter of a book or one article in a journal could be use.

2. Music and lyrics: Up to 10 percent of a copyrighted composition may be reproduced, but should be limited to 30 seconds of an individual composition.
3. Visual images: A photograph or illustration may be used in its entirety but no more than five images by an individual artist or photographer. Up to 10 percent or a limit of 15 images of a collective work may be copied.
4. Films and videos: Up to 10 percent of a copyrighted work or approximately three minutes may be reproduced.

Remember, these are guidelines or suggestions and should not be confused with legal descriptions. Guidelines are the beginning point for consideration in reproduction of copyrighted material. Fair use compliance is always necessary and citing your source is always advisable.

The Berne Convention

In 1886, the first major international convention on copyright was held. The result of this convention was an international treaty with standards for copyright protection. The convention members include most of the major industrialized countries of the world. However, the United States did not become a member until March of 1989 when it. became the 77th member country to join the convention. The Berne Convention protects the literary, artistic and scientific works of members of the Convention in any of the other member countries. Therefore, your creative work has the same protection in most other countries as it does here in the United States. The Convention also made written notice or registration of works first published after March 1, 1989 optional for basic copyright protection in any of the Convention member countries. From the moment you put your work in a tangible form it is protected unless it was published before the United States became a member in 1989. However, you should register your copyright for greater protection if you should ever have to bring suit. Each country must offer a minimum standard of copyright protection that includes: a time limit of the author's life plus 50 years; a provision for fair use of the copyrighted work; and the author's moral rights to his/her work. The moral rights clause protects the integrity of the copyright holder's work from change or distortion without permission and cannot be transferred to a third party.

The WIPO Treaty

In 1996, the United States signed the WIPO (World Intellectual Property Organization) Copyright Treaty Act that builds on the Berne Convention to include copyright protection for digital works and computer software. Under this international treaty, it would be an infringement of copyright to make unauthorized copies of material on a website or to remove or alter the copyright owner's information from a digital work. All the countries that signed the treaty are required to enact copyright laws to protect work in digital format. The United States amended its copyright law in 1998 to comply with this treaty. The result was the Digital Millennium Copyright Act (DMCA).

Digital Millennium Copyright Act (DMCA)

The Digital Millennium Copyright Act (DMCA) was passed by Congress on October 12, 1998. The DMCA was signed into law by President Clinton on October 28, 1998 and conformed to the World Intellectual Property Organization's efforts to provide a level playing field for countries' treatment of ownership and protection of intellectual property. The United States is a major exporter of intellectual property in various formats, print, software, music, and film. It was imperative that U.S. law protect American citizen's creative output for export as well as protecting intellectual property imported into the United States.

The issue of copyright in the digital environment is very challenging to educators and librarians alike. Technological developments force us to continuously re-examine and re-apply our understanding of intellectual property management. The DMCA is an effort to balance the rights of copyright owners and

users in the digital environment. The availability of and easy transmission of information has created an atmosphere of skepticism and assertive protection of intellectual property. The development of the DMCA spanned five years from 1993 to 1998. The DMCA is divided into five titles that address numerous aspects of digital intellectual property.

Title I, WIPO Treaties Implementation.

Title II, Online Copyright Infringement Liability Limitation.

Title III, Computer Maintenance or Repair Copyright Exemption.

Title IV, Miscellaneous Provisions

Title V, Protection Of Certain Original Designs

Title I establishes the DMCA as a globally effective protection of U.S. citizen's intellectual property. It provides legal protection against circumventing technological protection measures and tampering with copyright management information. It prohibits the circumvention of any effective technological protection measure installed to restrict access, be it password or technology. Acceptable limitation for circumvention is available for nonprofit library, archive and educational institutions. This title also includes language stating that nothing in the act affects fair use or other information user privileges. The activities of reverse engineering and encryption research are limited by stated exceptions that must be met to protect against copyright infringement. Title I places very extreme penalties for copyright infringement offenses.

Title II outlines protection for online service providers (OSP) from copyright infringement liability. The OSP is the institution, such as a library or university, providing the connections for digital online communication service. An OSP must meet certain conditions to qualify for protection. When notified of copyright infringement by copyright holders, the OSP must have in place a method of terminating service to subscribers who are repeat offenders. . The OSP is not only the conduit for data information, but also provides the copyright holder a point of complaint.

Title III allows an owner or lessee of a computer to make a copy of a software program to maintain or repair the computer. The software must be a lawfully obtained program and the copy must be destroyed after the repair or maintenance has been completed.

Title IV has several areas that impact educators and librarians. It allows for nonprofit libraries and archives to make up to three digital copies of copyright material for preservation purposes as long as they are not made available outside the archive or library. It also allows making a digital copy of a work into a new format if the original format is obsolete. Title V of the DMCA has a minimum effect on education and the academic arena, unless you are designing a boat hull, and will not be discussed in this paper.

The distance education aspect of the DMCA was woefully inadequate, by design. Congress expressed an interest in promoting distance education through legislation and included in the DMCA a directive that the Copyright Office conduct studies and report within six months of DMCA enactment. The report resulted in the Technology, Education, and Copyright Harmonization Act (TEACH) that was passed by Congress in October 2002 and was signed into law by President Bush in November 2002.

Teach Act

The TEACH Act is an opportunity for distance education providers because it allows accredited, nonprofit educational institutions to utilize copyright protected materials for distance education without obtaining permission or paying royalties. The act outlines the responsibilities, limitations and procedures

that must be observed for non-infringement of copyright. Distance education is a vital and growing aspect of most academic institutions and it behooves educators to understand and utilize the TEACH Act benefits for instruction in distance education. The basic concept of traditional teaching is inherent in the act, but it still provides potential for distance education to utilize needed copyright materials. Materials must be used within the context of "mediated instructional activities", the expectation being that students will access each session within a limited time period. The time period will eliminate the necessity to store or retrieve materials later during the academic term. Faculty must also limit the portion of copyrighted materials used, portions would be comparable to that used in traditional classroom instruction. The educational institution must provide restricted access to the material available in distance education courses, but may retain restricted limited copies. The Teach Act is a major improvement, but does have restrictions that faculty and educational institutions must be aware of. Educators should avail themselves of the benefits of the act and explore methods to produce a satisfactory atmosphere of learning. An imperative is the application of the law of fair use.

The TEACH Act expanded the allowed works to include the display and performance of nearly all types of works. This usage is subject to quantity limitations, reasonable and limited portions as outlined in the act or fair use. This transmission should be a mediated instructional activity supervised by the instructor and related to the teaching content and limited to students enrolled in the class. The TEACH Act does not include transmission of supplemental materials that students would be expected to utilize outside the classroom. The Act expands the locations where the information may be received; with limited access distance education students can receive classes at any location. Educational institutions have in the past been allowed to record and retain copies of distance education transmissions, this is still allowable, but the time frame is limited, and should be used only for transmission for distance education, and placed in storage unavailable to students. If copyrighted material is not available in digitized form, it may be digitized in order to facilitate transmission. The Act specifies that students should be notified that materials included in distance education transmission may be subject to copyright protection and notification should be included on distribution materials for class.

The passage of the TEACH Act is fairly recent and the true impact on distance education, fair use, and course construction is still being tested. In the coming months there will be much commentary on the act, and methods of utilizing the act, to accommodate the process of instruction within the academic arena.

The Sonny Bono Copyright Term Extension Act of 1998

In October of 1998, Congress enacted the Sonny Bono Copyright Term Extension Act. This act essentially added twenty years to the term of copyright for all works still under copyright at the date the act went into effect as well as for future works. The following table shows the basic duration of copyright as it stands as of this time.

Copyright Duration Table

Date and Nature of Work	Copyright Term
Published before 1923	**In the public domain**
Published 1923-1963 and never renewed	In the public domain
Published 1923-1963 with timely renewal	95 years from date of first publication
Published 1964-1977 (with © notice)	95 years from date of first publication
Created 1978 or later (published or not)	Life of author plus 70 years
Created 1978 or later (anonymous/for hire)	95 years from publication or 120 years from creation, whichever ends first

This act makes it more difficult to find works that are in the public domain. There is one exception in the act that impacts libraries, archives, and nonprofit educational institutions. It allows these entities, not individuals, to treat a copyrighted work that is in its last twenty years of protection as if it is in the public

domain with certain restrictions.

1. It must be used for noncommercial or archival purposes only
2. A good faith search must determine that the work is "not subject to normal commercial exploitation." Some sources explain this as the work not being available for sale.
3. And that any use of the work would cease if the owner of the copyright provides notice to the contrary.

It is wise, anytime the boundaries of fair use are extended, to be absolutely sure that the work is in the public domain or that permission from the copyright holder is given. The penalties for copyright infringement, if brought to court, can be anywhere from $200 to $150,000 and could include prison time.

PUBLIC DOMAIN

There is at present a cadre of legislators, educators, lawyers and citizens that are questioning the correctness of several aspects of current copyright provisions. This reluctance toward the copyright arena deals with the original intent of the U.S. Constitution provision of limited exclusive rights and the concept that copyright protects the creative process, not the facts, of the copyright material and that technology may inhibit the Fair Use provision The Sonny Bono Copyright Extension Act has been scrutinized against the intent of the U.S. Constitution and the Supreme Court has upheld it. The argument is that the Extension Act could be deemed unconstitutional because it diminishes the effectiveness of public domain. As things now stand, if an author publishes at thirty and lives to sixty-five years of age the copyright on his work could be effective for more than one hundred years. Compare this to the fourteen years allowed in the first copyright law of 1790. Currently, there is apprehension that copyright has been driven by economics without regard to the benefits for society. The DMCA provision for copyright through no circumvention could inhibit the provision of fair use of copyright materials. If you cannot access material because of technological blocks you cannot invoke fair use. In light of the fact that no laws or acts have impacted the Fair Use Act this could present some interesting legal questions. Fair Use infringement is determined by legal proceedings and the language of the aggressive protection of technological materials in the DMCA is often not clear. Copyright is determined on the aspect of originality and a tangible medium, and when imposed on software the concern is on the question of fact versus originality. The concept of computer programs and databases as literary works could be questioned. The new copyright laws apply to limited areas of creative endeavor, strongly favoring fine artists, software companies, writers, movie producers and recording artists. Often, writers, recording artists and software programmers will contract with publishers or companies to produce their work and so do not totally own the rights to their creative product.

Academia is both producer and user of information and dependent on intellectual property management and policies. The current DMCA has not fully appreciated the contributions of academic research and intellectual property. Individuals supporting a better balance between proprietary rights and information access are aware of the contribution and utilization of academia. Much research on campuses begins with material that is, or at least should be, a part of public domain. How the diminishing public domain and the constriction of fair use will impact the acceptable process of research is still being questioned. Advocates of rewriting the DMCA and reversing the Extension Act can paint a very depressing scenario for the future, but any action should appreciate the need of information providers and users.

CONCLUSION

Copyright does not need to impede academic research and teaching. Copyright, ideally, is constructed to balance the interests of copyright owners with the interest of the users of copyrighted materials. The Constitution of the United States provides a basis for the concept of copyright and the advancement of science and art. Fair Use is the vehicle that allows use of copyrighted materials without infringement of the law, but does not allow unlimited and flagrant violation of Copyright Law. Technological and global interests have added an element of copyright that must be addressed for adherence to the laws of

BEST COPY AVAILABLE

copyright. Academic utilization of technology has enhanced research, teaching, and information delivery. This provides an exciting and creative atmosphere of challenges. Changes in copyright interpretation and laws are a challenge. The very technology that drives these changes is also the tool used to keep abreast of current trends. Access to Internet, WebPages, list serves, and e-mail are the tools to understanding your rights to use copyrighted materials for non-profit educational use. For all the current activity toward copyright protection, nothing has replaced the Copyright Law or Fair Use Act of 1976, they only complicate it.

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U.S. Department of Education
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